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BRONZE CULTURE OF ANCIENT CHINA

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Wine container of the Chia type (NB.4026; p. 25)

BRONZE CULTURE OF ANCIENT CHINA

An Archaeological Study of Bronze Objects from Northern Honan, dating from about 1400 B.C. - 771 B.C.

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PREFACE

THIS STUDY of *Bronze Culture of Ancient China* follows the preceding study of *Bone Culture of Ancient China* (Museum Studies, No. 4), and much of the background of the latter is applicable here and need not be repeated. Furthermore, many books have recently been published on Chinese bronzes dealing intensively and scientifically with the examination of forms, motifs, and, when known, the historical and geographical setting. It would be a monotonous and unnecessary duplication to attempt to describe the many hundreds of objects of ancient Chinese bronze in the collection of the Royal Ontario Museum, parallels of which have been so fully described by others.

Two kinds of information about collections of Chinese bronze are usually lacking: (1) on the geographical areas from which the objects came, and (2) on the various objects known to have been associated together. The Royal Ontario Museum is fortunate in having considerable data concerning these aspects, and because of this the present study will not deal with ancient Chinese bronzes in general except by a brief introduction, but will be concerned with describing and illustrating a number of groups of associated objects, now in the galleries of the Museum. It must be borne in mind that the groups enumerated are not to be taken as complete sets of ceremonial vessels from the respective tombs, but only parts of the original groupings; yet the fact that many objects sometimes were associated together, were obviously a part of the same burial, and were vouched for by persons who had to do with their excavations should be of value towards increasing our general knowledge of early Chinese bronze culture.

All material described in this study came from Honan tomb sites and in most cases from known localities. The objects belong mainly to the Shang dynasty and Early Chou (*c.*1400–772 B.C.) and come from three main areas: the Anyang area, for Shang objects prior to 1122 B.C.; the Wei-hui area (to include Hsün Hsien and Hui Hsien) for the period in general after that date; and the Loyang area for the same period.

Since it was the site of the capital of the Middle Kingdom, Loyang was presumably the centre of the highest standards of Chinese cultural practices throughout almost the whole period of the Chou dynasty. A limitation to 772 B.C., which marks the end of Western Chou, would thus omit important groups that have come to light from tomb sites of Eastern Chou, such as Old Loyang,[1] the Hsin-cheng finds in central Honan, and the Li-yü and Shou Chou materials.

[1]W. C. White: *Tombs of Old Loyang* (Shanghai, 1934).

The very extensive excavations made in Honan by the Academia Sinica, particularly at Anyang and Hsün Hsien, have brought to light very important archaeological material, but this has not yet been fully analysed or published.

The Wade-Giles system of romanization is followed in this book, except in a very few cases of place-names where the Chinese postal spelling is retained, such as Sian for Hsi-an, Tientsin for T'ien-ching, Mengtsin for Meng-chin, Sinsiang for Hsin-hsiang. Usually the part of the name which tells the status of a place is capitalized, e.g. Ts'un (village), Hsien (county), Chou (department), Fu (prefecture). It has been the custom generally in English books on Chinese technical subjects to italicize the romanization of Chinese words. To one not familiar with the language this sometimes is confusing and hinders comprehension. As an experiment towards clarity and facility of understanding, this study uses a minimum of italics and makes use of the capital for the initial letter of the Chinese word, but adheres generally to the Wade-Giles system of spelling.

A list of names of the most common ceremonial vessels is given in Appendix B. Numbers preceded by the letters NB are catalogue accession numbers used for Chinese bronze objects in the Chinese Collection of the Museum. An index of these catalogue numbers follows the general index at the end of this book.

It will be noticed that the terms "pictographs" and "pictograms" are both used, yet we try to show a difference in usage by applying pictograph to a simple naturalistic drawing of the object, and pictogram to one that is more ideographic, being a compound of ideas—but there can be no hard and fast line drawn between the two.[2]

W. C. W.

[2]See Joseph Needham, F.R.S.: *Science and Civilization in China*, Vol. I (Cambridge, 1954), p. 27: "The most primitive elements of Chinese were generally *pictographs* i.e. drawings reduced to the essentials, conventionalized, and in time stylized. . . . So far we have mentioned pictograms proper, indirect symbols, associative compounds, and the mutually interpretative symbols."

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WE ARE under great obligation to the Advisory Committee on Publications of the University of Toronto Press which has made this project possible; and to the Directors and staff of the Press, who have so courteously and painstakingly given their skilful attention to the production of this volume.

We would also express our thanks to the *Illustrated London News,* and to the London Electrotype Agency, for providing us with duplicate plates of the colour illustrations, which were published in the *Illustrated London News* of March 23, 1935, April 20, 1935, and May 18, 1935. Unfortunately, the original plates were destroyed in the bombing of London, but the duplicates were safe in the Royal Ontario Museum.

In 1946, after VJ Day, we returned to China, and took the plates with us, hoping that the publishing firm of Messrs. Kelly and Walsh of Shanghai would be able to publish the book, but their establishment was quite destroyed by bombing. So in 1947, upon our return to Canada the plates accompanied us again. They had been somewhat damaged by the harsh conditions of travel and transportation in the Honan province, but have been restored as far as possible, and now appear in this book.

Finally, we are greatly indebted to the authorities of the Royal Ontario Museum for the facilities so fully extended to us; and specially to Miss Helen E. Fernald, Curator of the Chinese Collection, and Miss B. Kingston, Secretary-Librarian of the department, for their unstinted help.

W.C.W.

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BRONZE CULTURE OF ANCIENT CHINA

BRONZE IN ANCIENT CHINA

ALTHOUGH POTTERY of a prehistoric character and stone implements of neolithic type are found in the Waste of Yin at Anyang in strata with highly developed pottery and stone sculpture, there seems to be little if anything in copper or bronze artifacts which denotes the existence of a chalcolithic culture on that site. The bronze culture suddenly appears at the peak of its excellence, and there is nothing to explain its origin or background. The objects show a standard of excellence in casting, a balance and strength in form, and a refinement in design and decoration which have never been surpassed in bronze casting anywhere in the world. They are undoubtedly the finest creations from metal which men have ever made. With all the resources that modern science can command, it has not yet succeeded in producing better bronzes than the best pieces of the Shang. It is assumed that a long period of development must have preceded the Anyang bronzes, and it is reasonably certain that the bronze culture was brought to that locality by the court of P'an-Keng about 1400 B.C. Other sites will doubtless be excavated in the future that will reveal bronzes of the earlier Shang and of the Hsia period, and that will enable us to trace the development to its source.

Because the Bronze Age of the Middle East and the West is known to have existed earlier than that of China, there are those who believe that the manufacture of bronze did not originate in China, but entered as a developed technique, relatively late in the Bronze Age of the world. There is no definite evidence for this assumption; on the contrary the great quantity and variety of the bronze objects show an overwhelming preponderance of Chinese indigenous types, both in form and design, and very few that are paralleled in the other bronze cultural fields of the world. Those who try to find parallels of decorative design in the islands of the Pacific, or the lands of the Aztecs and the Mayas and the American Indians, surely fail to grasp the significance of the unhistoric gap of two thousand and more years.

It has been assumed that the finer bronzes must be later, but there is no evidence to corroborate this, and very early pieces seem to be just as high in quality as those which may be attributed by their inscriptions to Late Shang or Early Chou. Until recently, museums of Europe and America refused to label early bronzes as Shang despite the fact that the Chinese themselves had been calling them Shang throughout the centuries. The finding of such bronzes in the Anyang excavations, with the contemporary writings of the Shang Oracle Bones, settled the question once for all.

Deposits of copper ore are so far not known to exist in that district, so the copper used in casting bronze must have been brought to the locality; for lumps of what appears to be copper

slag, mixed with charcoal, as well as ingots of tin, have been found there, and large numbers of pottery moulds in which the vessels were cast, some showing specks of bronze, proving very definitely that casting was done locally.

Scientific examination of some specimens of Anyang bronze reveals an admixture of approximately eight parts of copper and two parts of tin, with small quantities of lead and other minerals. The method of casting was thought to have been solely by the *cire perdue* or lost-wax process, and this doubtless was commonly used, but the finding of pottery moulds points also to the method of casting directly by sectional moulds, though these latter may also have been used for casting the wax models.

In general, casting by moulds would require that a core of clay be moulded to the desired shape of the interior of the finished vessel, and that the sections of the pottery mould be attached around it, leaving an even space between the core and the outer mould. Bronze pegs were used when necessary to keep the outer shell at the proper distance from the core; these often were absorbed in the molten bronze, and any extending remains would be filed off and polished. The location of these pegs can often be detected on the polished surface of the vessel. The molten bronze would be poured into an opening at the top of the mould, or at the bottom if it was inverted, and when cooled the pottery sections would be removed, the clay core dug out, and the rough spots and points of adhering metal cut, filed, and finished off.

The lost-wax process was similar, except that wax was moulded on the clay core to the desired thickness of the completed vessel, and the decorative design was carved on the surface of the wax. When the artist was satisfied with the wax model, it was brushed over with a thin clay wash which would fill the incisions of the designs on the wax; when this wash was sufficiently dry, successive coats were added, which thus formed a clay shell around the wax model. Over this shell was plastered a thicker layer of clay; and vent holes were arranged for, to allow the wax to run out when the object was heated, and also for the pouring in of the molten bronze, which would fill the cavity formerly occupied by the wax. After cooling, the outer clay shell was broken off, the inner clay core removed, and the completed bronze vessel finished by removing the inequalities in the surface and edges.[1]

In these two processes there would be differences of method, varying with the individual technicians or local practices. Weapons such as knives, axes, spear-points, and dagger-axes, for which no core was required, could be cast direct in stone or metal or pottery moulds, the moulds probably being in similar halves, one imposed on the other, and with a runway for pouring the molten bronze between them.

Bronze Weapons and Implements

THE MOST IMPORTANT bronze weapons of this period are axes, dagger-axes, spears, knives, and the bronze-tipped arrows used with the composite sinew-backed bow and the cross-bow.

(1) AXES (Yüeh)

The most common type of axe is found in a variety of shapes, sometimes of zoomorphic

[1]O. Karlbeck: "Anyang Moulds," *Yin and Chou Researches* (Stockholm, 1935).

form with an "eye," or with the open jaws of a monster, or decorated with designs of animal masks or cicadas. The animal form sometimes becomes stylized in graceful shapes, and even diminutive axes are found which were probably used in ceremonial burial.

The true axe, that is, the axe with the cutting edge parallel with the shaft, was hafted in either of two ways. One way was to make a transverse socket in the heel of the weapon; the axe so formed is usually known as a socketed axe. The other way was to pierce the shaft, insert the flat heel of the weapon so that it extended beyond the wood, and there lash it in place. In the latter method of hafting, there were usually holes for the lashings, and an extension and flanged ridge to sink into a groove in the front side of the shaft, for snug fitting. The shafts were of wood, probably about three feet in length, the length of a Canadian axe handle.

A second type of axe is that with an elongated square-shaped blade, socketed for the shaft, and sometimes carrying one or more knobs or stud-like projections, reminiscent of the heel of the ordinary axe. A possible variation of this type has a circular blade in place of the square blade, but otherwise it is similar.

A third type is a knife-like weapon lashed lengthwise at the end of the shaft. These axes were frequently zoomorphic in design and decoration, and were attached to the shaft by a half-socket and ring-band formation which seems to have been in use throughout the Chou dynasty and perhaps the Han. Probably there are other types which might well be classified in groups, for axes seem to be quite plentiful and of great variety. Evidently they were for the most part royal weapons,[2] although wood craftsmen also used axes, for example, the wheelwright in the making of chariots.

(2) DAGGER-AXES OR HALBERDS (Ko)

Although bronze dagger-axes are found in other countries, they are not as common as in ancient China, nor are they as varied in form or decoration. The dagger-axe is the most characteristic weapon of early China, and its development in form over a period of some fifteen centuries, from Shang to the Later Han, is clearly recognized.

The Shang dagger-axes or halberds may in general be arranged in four groups, with other extended classifications according to variations. The first group has a triangular-shaped blade with a flat heel which pierces the shaft and is lashed to it. Another group contains the simple dagger-shaped weapon with flat heel; a third group is similar in shape but socketed for hafting and is often inscribed with pictographs. A fourth group includes a wide range of thin flat dagger-axes, usually with highly decorated heel sometimes inlaid with turquoise. These could not have been intended for actual warfare, but only for ceremonial use or for burial in tombs; none of them is known to have been socketed. All dagger-axes would appear to have been furnished with a wooden shaft some three feet in length. The top of the shaft might have been capped with a bronze finial just above the blade, and the butt also might well have had a finail similar to those of Chou. These dagger-axes were usually decorated with tassels, as is seen in the archaic pictograph which designates that type of weapon.

[2]C. W. Bishop: *The Beginnings of North and South in China.*

(3) SPEARS (Mao)

There seem to be three general groups of bronze spears, and all are socketed. The first group is distinguished by a large, powerful point sometimes found with inscriptions or mask designs; another group has points of the laurel-leaf shape; and a third has a smaller lighter lance-point which may be the bronze parallel of the bone lance-point. Other forms of spear-points may possibly come to light in time, one of which may be a dagger-shaped point, unsocketed, which was certainly known in the Chou period. The spears also carried tassels, which were attached to the holes at the base of the blade. The shafts were probably longer than those of the dagger-axes, but they must have had socketed pronged terminals at the butt end, which may have been forked for thrusting into the ground when the spear was required to stand upright. What appear to be bronze butt-ends, both plain and decorated, socketed, fork-shaped, and with two and sometimes four prongs are quite common.

(4) KNIVES (Tao)

Apparently there were no swords in use in Shang times, and they do not appear until the Middle Chou. Knives (Tao) on the other hand are common. Most of them would appear to be sacrificial knives, although some of them must have been knives for domestic and general use, but very few, if any, could be accepted as weapons for warfare. One type of knife, often large and powerful, carried a wooden handle, and the blade was sometimes elaborately decorated. A smaller knife has a bronze handle of one piece with the blade. The latter is found in a variety of forms, with open-work handle, ring- or jingle-ended handle, sometimes bearing inscriptions, and frequently with an animal form in the round, making an artistic finial for the handle. A still smaller bronze knife, delicately fashioned and usually with zoomorphic handle of bronze in dragon or fish shape, is a very attractive type, and must have been intended solely for ceremonial use. Under "knives" must also be included what has been considered to be a bronze razor-blade, the handle of which was probably wound around with cord, or had wooden strips attached to it.

(5) ARCHERY EQUIPMENT (Kung Chien)

Bronze arrow-points are not as common as bone, and those found are mostly of the flat and winged type which are paralleled in bone and stone and jade. Bronze bow-ends were probably used, similar to the inlaid bone bow-ends; and archers' thumb-rings are not uncommon. The composite bow and the cross-bow were apparently the most common types of bow in use in Shang time, and their use has continued to the present. In the hills of Fuhkien today, cross-bows with a trip-trigger control are used with poisoned arrows to kill tigers and leopards.

(6) MACE-HEADS (Li Kuei-t'ou)

Bronze knobbed mace-heads are known to have been used, probably in the same manner as stone mace-heads. Some of these were possibly ceremonial mace-heads, but even these were sometimes of such a weight as to make an effective weapon.

(7) DEFENSIVE ARMOUR (Ping Ch'i)

Bronze frames of shields, which were doubtless covered with rawhide or leather, are

known to exist; and bronze helmets were found at Hsün Hsien which belong to the very beginning of the Chou dynasty or even the end of Shang, as may be gathered from the bronze helmets found at Anyang in 1934.[3]

(8) TOOLS (Chia Huo)

Among bronze tools the most common are adzes or socketed celts. They are both plain and decorated, and were probably hafted, with the cutting edge forming a right angle with the direction of the handle in the manner of the modern iron adze or Pen, thus differing from the axe, the cutting edge of which is parallel with the handle. What may be an unsocketed celt-blade, or the knife of a carpenter's plane, is a thin flat blade with design on one side only, the other side being plain (NB. 3978, Plate XXI). The socketed celt appeared in central and eastern Europe in the late Bronze Age, but was not current in Egypt, Asia Minor, Iran, and India. In China it occurred in considerable numbers during the Shang and Early Chou periods, and it continued through the centuries to the present time. From China its use probably extended to North Burma, Cambodia, and into Indonesia.

A Shang wheelwright's set of tools consisted of three pieces: an axe, a bronze adze, and a chisel, hafted for a wooden handle. A small all-bronze chisel, with reinforced top, required no wooden handle. No bronze mallets are yet known, but probably mallets were made of wood, and so have disappeared. Bronze files, according to file marks on the oracle bones, were both fine and coarse. For boring in bone or stone or jade, a bow-shaped brace was used, similar to that in use today; but what the bits or points were like is not clear, though they may have been of tempered bronze. It is known that they bored in various diameters, from a pin-head size up to at least half an inch, as seen in the small jade pendants and the auger-bored cavities of the oracle bones; also it is generally accepted that abrasives were used.

(9) CHARIOT AND HORSE TRAPPINGS (Ch'e Ma Ch'i)

Chariots, with two spoked wheels, and drawn by two animals yoked together, are depicted on the oracle bones. They were not only for military purposes, but for the chase, and for ceremonial and possibly general use. The Odes would imply that more than two horses were sometimes used to draw the chariots. The body of the chariot was attached to the transverse bar, without springs, and the wheels were placed on the ends of the axle-bar in the usual way with axle-caps over the ends, through each of which a linchpin was thrust, which kept the wheel in place. These axle-caps were quite long in Shang and Western Chou times, but in Eastern Chou time they were shortened. The hub of the wheel was rimmed with a bronze ring, and the sections of the rim of the wheel were probably held together by bronze sectional strips nailed around the rim, similar to the method still practised in Northern China, except that the sections are now of iron. A well-known graph found on some bronze vessels depicts a cart with two men under the yoke, which might well suggest that at the court man-drawn chariots were in use. It is recorded in the Bamboo Books that in the thirteenth year of Emperor Kuei (1575 B.C.), "he made for the first time men-drawn carriages." A bronze

[3] *Illustrated London News*, April 4, 1936.

Fang-yi vessel in the Chinese Collection of the Royal Ontario Museum carries this very same graph.

Many bronze objects are obviously chariot fittings but their particular use is seldom known. One type of bronze object which is quite common is a finial for a wooden beam. The design on the object may be a bird or dragon or some other monster. Another type of finial, found in pairs, is a tube, either round or square, with decoration of monsters in relief. Plaques of various shapes and kinds, long or short or angular, are found. Heavy bronze strips, with decoration, were obviously turned at one end for attachment to a shaped wooden object. Large circular plaques were probably ornamental bosses, as were also plaques of a smaller type; and other kinds of plaques were probably parts of large animal masks, which we know were quite common. Smaller masks of a similar kind, but not in sections, were also common. Plaques of another kind, often highly decorated, had loops on the back for attachment to leather or cloth, and in some cases they may have been used for harness-strap decoration. A shaped piece of bronze, with rosette and bird design, may have been a decorative plaque over a horse yoke or shoulder collar. Bronze jingles of arc shape were common, sometimes with bells at the two ends or with jingles of horse-head design (Plate XXXVI), and sometimes inlaid with turquoise. (See Appendix G.) A plaque for the horse's face, between its eyes, was common, and also a peculiar plaque with two holes like nostrils the use of which is still undetermined. Many small plaques, like buttons, with monster-mask design inlaid with turquoise were purely decorative, as were also some of frogs and cicadas and heads of donkeys. Bronze bit-plaques were found in various bird and dragon and monster designs, and an elephant design with exaggerated trunk seems to have been a favourite. Some of these plaques were found attached to the horse-bits, which latter were of the usual types, varying in size and in the number of chain links; such bits have continued in use in China through the centuries to the present day. There is nothing to show that the Shang people ever rode horseback, and the use of horses for riding seems not to have appeared in China until the end of the Chou dynasty. Even then the Chinese apparently did not use stirrups, for these, as far as we know, are not found before the fourth or fifth century A.D.

(10) VARIOUS

An object which has been variously interpreted is composed of four tubes of a finial cap-like shape, forming the four corners of a square. This square has four sides which may or may not be decorated, and a horizontal plate connecting the tops of these sides, through the centre of which a circular hole was pierced, obviously intended for a pole or staff. Several of these objects are known, and it has now been determined that they were lamps, and that the tubes were oil containers.[4]

One fact of great interest which has come to light is the use of tamed elephants in Shang times. The elephant design appears on the bronzes, the carved bones, and the carved stone, and there were small bronze figures of elephants which may have been used as ornaments or

[4] "A Chinese Bronze Lamp," *Parnassus*, vol. XII, no. 2.

charms. That the elephants were probably tamed for work is seen in what may be bronze elephant-goads, and in the pictographs on the oracle bones, which show elephants being guided by hand.

Bronze Ceremonial Vessels

THE SUPERB QUALITY of Shang bronze work has already been mentioned, but the objects that show this work at its best are the ceremonial vessels. Most of these vessels were used in rites that had to do with sacrifices to the ancestors, either at the altars in the home, in the ancestral temples, or at the tomb-side, or in state sacrifices or ceremonies connected with anniversaries and weddings and other important functions. Some of the vessels may have been for domestic use, but it is difficult to single these out from the purely ceremonial vessels, and it is probable that certain vessels were used for both purposes.

One large group of vessels and objects is similar in form and design to those used successively in the sacrifices and ceremonies, or to the domestic vessels; but their quality of workmanship and material is greatly inferior, and often the clay cores have been allowed to remain in the base of the handles and legs. This type is known as Ming-ch'i, that is, "bright vessels," and they are inferior reproductions made only to be used at the funeral ceremonies, and to be buried in the tombs for the use of the dead in the spirit world. These funerary bronzes cover the whole range of bronze objects, including ritual vessels and objects, musical instruments, weapons, chariot fittings, and horse trappings. Inscriptions are not as common on these vessels as they are on the regular ritual vessels, which latter are usually in sets co-ordinated by a common inscription, and intended for successive or "everlasting" use. On the other hand, ritual vessels, weapons, bells, and chariot and horse equipment, and any regular types which are not Ming-ch'i types, may occasionally be interred in the tomb of an important person. It is because of this practice in the Shang dynasty that bronzes and other artifacts of that time have been preserved until recent excavations brought them to light.

Shang tomb sites have often been found by wash-outs, by an object being ploughed up in the fields, or by experimental boring in likely spots. The one site definitely producing bronze of the Shang period is the Anyang area, and the most striking evidence of authenticity of dating in this area is that of the inscribed "oracle bones" found with the bronze and other objects.[5] The bones are contemporary written documents, the genuineness of which is not questioned. Although what appear to be Shang bronzes are found in other places, it is generally felt that they may have been carried to those places by the Chou conquerors after the overthrow of the Shang dynasty. This applies to Hsün Hsien and Loyang and possibly other places.

It was also a custom in Chinese Classical times to send presents of ceremonial vessels, and to have them carried, pilgrimage style, from state to state. Herodotus tells about the delegation of Hyperboreans who brought sacred objects, wrapped in straw, from their country to Delphi and about the Delphians making a shrine for the objects, which were greatly esteemed

[5]W. C. White: *Bone Culture of Ancient China* (Toronto, 1945).

by the youth of Greece. Hyperboreans, "the people beyond the north wind," are now understood to be Chinese, and they were the farthest Eastern people mentioned by Herodotus.

There is the probability that the transitional period from Shang to Chou would allow of the Shang type of bronzes being used well into the early Chou period, since the two Chou kings, Wen Wang and Wu Wang, were successively contemporaneous with the last fifty or so years of the Shang dynasty. In the Northern Sung dynasty (A.D. 960–1127) some of the tombs at Anyang must have been opened, for Shang bronzes figure in the Sung archaeological literature, and they are definitely attributed to the Shang period. Western connoisseurs have hitherto been reluctant to accept these Shang attributions, until the recent overwhelming evidence from Anyang removed all doubts on the question.

The beginning in scientific excavations at Anyang recently made by the Academia Sinica has produced much Shang material, and has revealed tomb-chambers of what are apparently royal tombs of the Shang. War conditions in China brought these excavations to a stop, but the material obtained has been very important, and confirms the Anyang, or Yin-Hsü, area as having been a site of the capital of Shang, and as being rich in what is really dated material.

The bronze ceremonial vessels of Shang are very much like the contemporary Anyang pottery vessels, and their differences are due mainly to the nature of the materials of which they are made.

In the *K'ao Kung Chi* there is a record of the various proportions of copper and tin for the making of the alloy of respective groups of bronzes, but analyses of Shang bronze fragments do not correspond with the tables given in the *K'ao Kung Chi,* perhaps because the latter record was included in the *Chou Li* at least a thousand years later than the end of the Shang. The Shang bronze alloys do not seem to have been regularly proportioned in their content for the various groups of bronze objects. In the Shang period there is so far no evidence of gold or silver inlay of bronze, nor is there gilt bronze, yet inlay of turquoise is common, and a filling or inlay of black lacquer in the surface designs and even in the inscriptions deeply cast within the vessels themselves is very general. Many of the vessels had been covered or wrapped round with woven cloth, including fine silk cloth, fine and coarse woven flax cloth, a rather coarse mat of woven reed, and even straw and millet stalks.

The designs on the bronzes, as on the carved bones and stone and jade, are generally zoomorphic with a background of meanders. The animal forms are usually stylized, yet there is a feeling of movement and power which is not generally associated with high stylization.

The so-called T'ao-t'ieh is the most common animal monster mask. It is impossible to define the animal this represents, for sometimes it appears to be a tiger, and again it may be an elephant or an ox or a stag, while often it may seem to be a composite of different animals and birds and reptiles. The carved bone spatulas, with masks of similar form, but with various kinds of horns, are parallel evidences on this point.[6]

Dragons of various kinds are common in the bronze designs, as in the carved bones, especially the little K'uei dragon, usually given in profile. In the summer of 1946 the writer

[6] *Ibid.*

was interested in watching the antics of these little lizards on the window screens of his home in Honan. They ranged from two inches to five inches in length, and demonstrated all the contortions of the K'uei dragon carved so cunningly on ancient bone and jade, and seen so frequently in the bronze designs. One could not but be convinced that these little creatures were the prototypes of the K'uei.

Stag heads, buffalo and ox heads, elephants, tigers, goats, rams, bears, hares, fish, lizards, snakes, cicadas, owls, eagles, and other birds are all found in endless variety.

The backgrounds are the regular forms of meander, either square or slanting, sometimes with rounded angles and lines, and in various combinations.

There seem to be no twisted rope borders in Shang, but bronze loop handles in twisted thong design are plentiful. Rosette designs in the form of bosses and circles in low relief are numerous, including the small circles within a larger circle, the line-cut spiral commas within a circular boss, the quatrefoil design of various kinds, the meander square with central eye or prominent "nipple" or spike, star designs, and scale designs of various kinds.

A good deal of attention has latterly been directed to classifications of style in early Chinese bronzes. Comparisons of form and decorative design have naturally been prominent, but inscribed bronzes have probably produced the most important data bearing on authenticity and period. Some scholars have been interested in classification of style according to locality, a method which has its value, for instance the centring of the Shang style in the Anyang area and of Western and Eastern Chou in the Loyang area, and the identification of characteristic styles with certain other smaller localities. However, the more one looks into the historical backgrounds the more one is convinced that generalizations regarding localities have probably gone too far. It is true that the power of the central state of Chou had waned to such an extent in Middle Chou that the country became a group of independent states, yet, with the exception of Ch'in, there is nothing much to lead to the belief that independent styles were originated or developed to any extent in the spheres of influence of those states. There was a nominal recognition of the headship of the Chou kingdom which carried with it a certain unity of state ceremonial. There were constant alignments for interstate conflict, intermarriage between the ruling families, ceremonial visits between them, and attendance at court. Even when a state was exterminated it seemed to be a recognized matter of honour to foster the remnant of its people. There was a tendency to conserve the rituals of earlier days, and certain states accepted and practised those rituals, as when Confucius expressed his preference for the ritual of Yin. Certain literature also would be standard in the whole country. With more light on the historical and geographical data of those early periods we may have to concede the essential uniformity of ideas and styles and ceremonial and governmental usages, even though the states were more or less independent of Chou. The greatest differences would be found around the outer borders of the country touched by the barbarian districts, and particularly in the area controlled by Ch'in.

The relationship of the Bronze Age to the Iron Age in China is naturally a subject of great interest. There is a wide diversity of opinion as to these periods, so we have refrained from considering them at this point and have briefly dealt with them in Appendix F.

TEN GROUPS OF CEREMONIAL OBJECTS

GROUP I

THE ELEPHANT TOMB SET

Shang. Wu-Ting Period, 1324–1265 B.C. Anyang, Honan

FROM 1927 TO 1931 in Honan was a period of strife which greatly hindered the search for antiques, and put a stop to much excavation, both official and private. In 1933 a new governor was appointed to the province, who was an enlightened man, kind but firm; he soon restored peace and confidence so that business prospered and excavations were resumed.

It was in July of 1933 that a Chinese friend brought in four excellent bronze vessels that had just been unearthed from a new site east of the village of Hsiao-t'un and near the town of Anyang (see Maps A and B, Appendix H). This area had not hitherto produced anything of archaeological interest; as a result, the landowner, and our friend the dealer and his associates, all local men, were able to keep the knowledge of the discovery under their own control. This excavation came to be known by us as the Elephant Tomb, because of the dominance of the elephant motif, in the form and design of the objects unearthed. Some scores of objects from this tomb are now in the Royal Ontario Museum at Toronto, and probably as many more have been scattered in various countries.

The four objects that came first were the following:

(1) A tripod vessel of the Chia type, used for heating wine for the sacrifices. Height 16 inches (NB.4032, frontispiece).

(2) A covered ewer of the Kuang type. Length 10 inches (NB.4027, Plate V).

(3) A similar Kuang vessel with elephant-head cover. Length 7.5 inches (Plate VII).

(4) A covered pail of the Yu type. Height 10.25 inches (Plate VIII).

Of the above vessels the first and second came to the Museum at Toronto, the third went to a Japanese collection, and the fourth to the collection of Sir Neill Malcolm in England.

The Kuang with elephant-head cover (No. 3) was very clean and free of soil encrustation though it did show traces of the fine silk cloth in which it had apparently been wrapped. We were informed that it had been found inside a bronze vessel which was broken into numberless fragments.

From these four objects it was apparent that an important personage must have been interred in the tomb, or his shrine altar established there, and every endeavour was made to obtain information concerning the burial and to gather together whatever objects might be

obtained from the excavation. There was no evidence of a tomb-chamber, but objects seemed to be scattered at random and embedded in the soil. Probably because of this, some important vessels usually found in ceremonial sets were not forthcoming, and they may still be hidden in the soil. So far as the writer knows there has been no specimen from this excavation of the following types: large Ting, P'an, Kuei, Li, Lei of the larger type, Hsien, Tsun, or Ho. These are all usually well represented as standard items in early groupings of vessels. There was a miniature Ting among the vessels (NB.4022, Plate XI); and there was also a small Lei (NB.4029, Plate X).

Apart from the ceremonial vessels there have been found many dagger-axes, battle-axes, knives, spear-points and butts, jingles and bells, and chariot plaques and fittings, which would suggest the tomb of a military personage of high rank. From the recurrence of certain pictographs on the tomb objects, and the integration of historical data, it is surmised that the individual was the Marquis of Yung (Yung Hou), whose name was Tiger but who was also known as Tzu-Chih, a prince of the royal house during the reign of Wu-Ting (1324–1265 B.C.). Tzu ("son" or "prince") was the family name of the ruling house of Shang. One of his offices at the court was probably that of keeper and bearer of the ceremonial Ko or halberd. Pictographs of a tiger, of a man carrying the Ko, and of the Tzu character ("son" or "prince") are frequently used on the objects. (See NB.3978, Plate XXI.)

Another pictograph not yet satisfactorily explained is the Shang cruciform Ya in association with a standing man holding a staff or wand; and also the character Tzu ("son" or "prince") in association with "rain" (Yü) as found on the covered pail mentioned above (No. 4). Is it possible that Tzu-Yü designates a "prince of rain"—the official responsible for rain or prayers for rain? (See Plate VIII.)

Another pictograph was Tzu in conjunction with Hsi (a mat). This is found on a pair of libation cups of the Chüeh type (NB. 4031, Plate II). In ancient China officials "sat on the mat," presumably in council, and Tzu-Hsi might well refer to the president of a council, or to a member of the royal family of Tzu. Furthermore, it was the general practice in China to have two high officials connected with each main department of the court who were designated officials of the "right" or the "left," respectively. This practice goes back to very early times, and has continued down through the centuries almost to the present day. In the pictographs of this pair of libation cups the Tzu characters are arranged differently, for one turns to the right the other to the left. Solomon had his cup-bearers (I Kings 10: 5); and in China about the same time, the rulers seemed also to have had their cup-bearers, designated, according to their practice, cup-bearers of the right and the left, respectively! It might be said that the different forms of the Tzu character on the pair of cups refer only to the placement of the vessels, but these were libation cups, which required human agency in their functional use in connection with the royal sacrifices. It must be accepted that this is not an accidental or exceptional case, for in the Toronto collection there are parallels, one being that of a pair of libation beakers of the Ku type (NB.4063, 4064, Plate LII) in which the graph is arranged in similar apposition.

Another instance that comes to mind is that of a pair of libation cups of the Chüeh type illustrated in a Chinese publication.[1] The graph is a well-known one of a bird with a Ko resting on its head, and the graphs on the cups face in opposite direction (cf. Group X (A), NB.6413).

So far no iron, gold, silver, or pewter artifacts seem to have come from this tomb, but apart from bronzes of exceptional merit, there were finely carved jade and stone objects, and mother-of-pearl and cowries. Turquoise was used as decorative inlay in bronze and bone and ivory. It is quite possible that carved white pottery as well as carved ivory and inscribed oracle bones were among the tomb objects, but as yet we have no evidence of them.

On the other hand there is clear evidence to show that two large tiger-face masks, made up of many sections of mother-of-pearl shell, were obtained from the Elephant Tomb excavation. These masks are described and illustrated in the previous study of this series[2] and twelve letters, written by a Chinese Christian clergyman on the spot, are in the files of the Royal Ontario Museum. These letters were accompanied by a sketch diagram showing the order of the segments forming the masks, and reveal that the larger mask was made up of fifty-four segments, while the smaller one was a combination of mother-of-pearl and carved white marble sections, sixteen in all. The letters are dated from July 1935 to 1937, and the writer speaks of the masks as "Tiger-animal-faces" (Hu-shou-mien), and says that they came from the "Tiger-Ewer Pit" (Hu-Yi K'eng), which was a reference to the Kuang or ewer which had a tiger's head on its cover (NB.4027, Plate V). (The Chinese called the excavation Hu-Yi K'eng; it was the Westerner only who spoke of it as the Elephant Tomb.) The writer of the letters stated there was much competition among the buyers for the shell fragments, for such shell masks had not hitherto been found. This experience encourages us to hope that some of the other random material in the Museum collection known to have come from Anyang, and said to have come from the Elephant Tomb, might not on further enquiry be found to belong to the group of the Shang personage Tzu-Chih.

Meanwhile, except where otherwise definitely stated, it may be accepted with confidence that the objects given in the following list come from excavations located east of the village of Hsiao-t'un and west of the Anyang railway station, that they are of Shang period about the time of King Wu-Ting (1324–1265 B.C.), and that they mark the tomb or shrine area of a Shang prince who flourished about the time of King Wu-Ting (see Appendix D).

[1]Huang: *Yeh-Chung P'ien-Yu* (Peking, 1942), Part III.

[2]W. C. White: *Bone Culture of Ancient China* (Toronto, 1945), pp. 209–212. When this Bone Culture study was prepared the particular excavation in Anyang was not specified owing to lack of information at that time.

PLATE I. One end of bow-shaped jingle, decorated with a horse's head at each end (NB.4035; p. 36)

PLATE II. Libation cup of the Chüeh type (NB.4031; p. 25)

PLATE III. Wine beaker of the Ku type (NB.4034; p. 26)

PLATE IV. Wine beaker of the Ku type (NB.4032; p. 26)

PLATE V. Wine ewer of the Kuang type (NB.4027; p. 26)

A

B

PLATE VI—A. Halberd, axe-hafted to receive a wooden handle (NB.3976; p. 31). B. Detail of halberd with inlaid turquoise (NB.3979; p. 30)

OBJECTS IN THE ELEPHANT TOMB SET

THE VESSELS

1 NB.4026 CHIA Wine container FRONTISPIECE

Used in heating wine. It has three sharp-pointed feet that are undecorated. Its flat-bottomed bowl is highly decorated. It has one handle on the side, and two short posts spring from the lip of the bowl, which are capped with mushroom-shaped knobs. One of these knobs is reduced in size through corrosion, the other is complete and covered with silk cloth encrustations. There is no inscription. It is still the custom in China to heat the wine used on ceremonial occasions.

Ht. 16″; Dia. at rim 10.25″

2 NB.4030 CHÜEH Tripod libation cup

This helmet-shaped cup has the usual three pronged legs and a handle on the right side of the bowl which is topped with an animal head. Two posts springing from the rim are capped by mushroom-shaped knobs. It has two spouts, one flat and pointed, the other trough-shaped. The round egg-like bottom shows traces of carbon from use on a fire. Under the handle is an inscription of two pictographs, Tzu for "son" or "prince," and Hsi for "mat," probably a symbol for the "council" which "sat on the mat" when in session. If this interpretation is correct it would associate this vessel with one who was president of the council, or possibly just a member of the royal house, the family name of which was Tzu. (See Appendix D.) The pictograph for "mat" has the arrow-shaped markings which usually designate the round in Shang décor, and suggest the fact that the mat was rolled up when not in use, as is done throughout China today with the universally used sleeping-mat. Such a mat is generally woven of fine rushes, or a very fine aquatic grass.

Ht. 7.9″. Graph Chart IA-2

3 NB.4031 CHÜEH Tripod libation cup PLATE II

This helmet-shaped cup forms a pair with the last object (B.4030), and is identical except that the Tzu pictograph leans in the opposite direction, thus emphasizing the symmetry of right and left in the using of these two vessels.

Ht. 8″. Graph Chart IA-1

With the above vessels was another single Chüeh which had the same pictograph of Tzu ("son"), but instead of Hsi it had the cyclical stem character Kuei, so that the inscription could read "Prince Kuei." This vessel was not obtained by the Museum.

4 NB.4032 KU Slender wine beaker PLATES IV, XV–A, XXXVII–2

This vessel has three zones. The foot zone is of animal mask décor with very unusual open-work design. In the centre is the usual small zone with dragon or bird design highly stylized. The top zone flares in a trumpet shape, with four stylized cicada designs of frond-like shape. On the outside of this zone, below the lip, is a pictograph of a man holding a staff, surmounted by the cruciform Ya symbol, which is commonly taken to be a distinctly Shang emblem.

Ht. 10.15″; Dia. at mouth 5.6″. Graph Chart IB-2

5 NB.4033 KU Slender wine beaker PLATE XV–B

This vessel forms a pair with the last object (NB.4032), and is identical in every respect. It has the same pictograph, and in the same place. Usually the graph on a Ku is placed inside the base-rim.

Ht. 10.15″; Dia. at mouth 5.6″. Graph Chart IB-1

6 NB.4034 KU Slender wine beaker PLATES III, XXXVII–3

This vessel likewise has three zones, but there is no open-work design, nor is there any inscription. The base zone has a semblance of a conventionalized elephant head. Otherwise it is similar to the above pair of Ku, NB.4032 and 4033.

Ht. 10″; Dia. 6″

It would be difficult to find more beautiful specimens of bronze casting than these Ku vessels. Their technical excellence is superb, their simplicity of form is delightful, and the masterly delineations of stylized animal motifs, with their atmosphere of mystery and other-worldliness, carry one back some thirty centuries in a spirit of adventure and discovery. Bronze objects of various types were sometimes inlaid with turquoise or lacquer or jade, but none with gold or silver in Shang times. When new, the bronze would show up the décor relief in striking manner; but now, with the maturity of age upon it the patination of autumn tints gives it an added richness of colour.

7 NB.4027 KUANG Ewer-shaped vessel PLATE V

This vessel is popularly called a Hu-t'ou-yi (tiger-head ewer). It is elliptical in shape, with a monster-form handle at one end, and a trough-like spout at the other. Its form is such as to preclude its being placed over a fire, yet it was used for pouring liquids. At least one such Kuang has been found with a pipe-shaped ladle fitted into a handle groove in the vessel, and with two compartments inside, obviously intended for two kinds of liquids. The surface of the vessel is covered with many animals, including an elephant, with trunk uplifted, on each side of the bowl. The full-length cover has a bovine head, with two bottle-shaped horns, over the spout end; while a feline head with prominent ears is at the handle end. There was no inscription on the vessel.

Ht. 8″; L. 10″

8 (Supplementary) KUANG Ewer-shaped vessel PLATE VII

Similar to the above, and found with it in the excavation. It was inside a bronze vessel which was in fragments, but the Kuang itself was in excellent condition and free of encrustations, except for remains of fine silk which adhered to it. It was covered with the most interesting animal figures, but its outstanding characteristic was the elephant head in the round at the front end of the cover. The trunk was upturned and there was a pair of short tusks. The large ears were upright, and a snake was curled round each, with its head entering the ear. The Museum did not obtain this Kuang, which it is said was ultimately sent to Japan. There was no graph on the vessel.

Ht. 7″; L. 7.5″

9 (Supplementary) YU Wine pail PLATE VIII

This wine container is elliptical in form, with a swing handle suspended from the flat sides of the vessel, instead of the usual handle which is suspended from the small ends. The spurs of the cover which are usually in alignment with the handle are in their proper place at the small ends of the cover. The handle ends are in the form of animal heads. The vessel is covered with the usual animal designs in low relief. In one end of the cover a crack had developed which was repaired by a double-pointed rivet, using a method which is in general practice today. The repair was covered with an ancient scaly patina such as covered the whole vessel. On one of the spurs of the cover are two pictographic characters meaning "son" and "rain" (Tzu-Yü). Tzu may be a homophone for Szu, that is, "supervisor," and might well refer to an official whose duties were connected with rain—a very important matter in those early days. Two pipe-shaped ladles often found with this type of vessel came from this excavation (Pl. XIII). This vessel was not obtained by the Royal Ontario Museum, but came into the possession of Sir Neill Malcolm.

Ht. excluding handle 10.25″

10 NB.4028 CHIH Wine beaker PLATES IXA, IXB

This short beaker is elliptical in form, and has a cover, which is unusual for this type of vessel. It is covered with stylized animal designs in low relief, which are clearly seen in the accompanying line-drawing (Pl. IXB). The central zone on the side of the vessel carries a ram's-head mask of which the two horns are prominently depicted. The upper band has two birds (or possibly K'uei lizards) on each side, set off with an inverted fringe of stylized cicadas. The band on the base-rim has a pair of bird forms on each side, all with reverted heads. The cover is decorated with a pair of ram's heads full-faced; or each quarter could be interpreted as a silhouette of four heads, as could be the figures in the central zone. The knob of the cover carries five comma-shaped spirals, with a circle in the centre; the background of the whole vessel is filled with the "thunder" meander. There is no inscription on this vessel.

Ht. over all 5.15″; Dia. at elliptical top rim 2.9″ × 2.4″

11 NB.4029 LEI (or HU) Covered wine container PLATE X

Usually this type of vessel is quite large, but all have similar characteristics: two side handles at the shoulder, and one in the centre close to the base, with round bosses in relief around the shoulder, and a cover with knob. A similar Lei of larger size, and without the cover, is found in Group II, the Halberd-Bearer (Pl. XXXVIII). The inscription inside the upper rim is Tzu ("son") with Mu ("mother") underneath. The inscription inside the cover is the same, except that the "mother" pictograph is lacking the two decorative hooks on the top of the head (Graph Chart IA-6).
Ht. over all 5.75″. Graph Chart IA-5, 6

12 NB.4022 TING Miniature tripod bowl PLATE XI-A

Two ears spring from the upper rim and two simple lines encircle the upper part of the bowl, which is the only decoration. Inscribed inside the vessel is the pictograph for "son" (Tzu) or "prince," and this links it up with the many other objects of this excavation which carry the "son" pictograph. There is nothing to show that the smallness of this vessel would suggest a series of graded sizes; neither is it a unique specimen, for a similar small Ting is found in Group VII, the Prince (Tzu) of Kung set (Pl. LXXVIII).
Ht. over all 2.3″; Dia. 1.7″. Graph Chart IA-4

13 NB.4025 TOU Hemispherical ladle PLATE XII-A

With socket for wooden handle. The pictograph for "son" is inscribed in a panel of a stylized cicada, and this is surmounted by a "tiger" mask. "Son" and "Tiger" are name marks of the person to whom the Elephant Tomb is dedicated. (See Appendix D.)
Depth 2.5″; Dia. bowl 3.25″, handle socket 1″; L. 5.7″. Graph Chart IA-7

14 NB.4156 TOU Hemispherical ladle PLATE XII-B

With socket for wooden handle. No decoration or inscription. It has been suggested that this and NB. 4025 above are measuring vessels, but so far this cannot be proved.
Dia. bowl 2.5″; L. 3.7″

15 NB.4023 TOU Pipe-shaped ladle PLATES XIII-D, XXXVII-6

Type used with Kuang and probably Yu vessel. This object is so balanced that when inverted the bowl rests on the rim of the vessel allowing the liquid drops to fall into the vessel. This ladle, or small dipper, gives its name to Ursa Major, the Northern Dipper (Pei-tou) and to the Southern Dipper (Nan-tou). It has a low-relief animal design incised at the handle end, culminating in a ram's head in the round, about one-third of the length from the handle end. The bowl is corrugated with vertical lines.
L. 8.25″

16 NB.4024 TOU Pipe-shaped ladle PLATE XIII-A, B, C

Similar to the NB. 4023 above, except that the decoration is different. This is a striking example of naturalistic animal style. At the handle end there are two columns of animals in apposition, beginning with a pair of tigers, then elephants, bears, stags, two other

pairs not distinguishable, and a pair of birds, culminating in a dragon with two bottle-shaped horns in the round. Then follow a dozen lines incised longitudinally towards the bowl end, where two more columns of animals are depicted: tigers, bears, stags, elephants, and fish. The bowl is plain.
L. 9.6″

17 NB.4066 KU Slender wine beaker PLATE XIV

This vessel is listed in this group because it was excavated about twenty feet north of the Elephant Tomb, and actually may have been connected with the tomb. This graceful vessel has the usual three zones of a Ku; the upper zone carrying a frond-like design of stylized cicadas, with four snake-like animals at their base; the centre zone and the base-rim zone being decorated with animal masks and K'uei dragons. The inscription inside the base-rim is unknown, but seems to point to a dedication associated with a Shang queen.
Ht. 11.5″; Dia. at top 6.6″. Graph Chart IA-8

18 (C. T. Loo Collection) FANG-YI Covered rectangular vessel PLATE XVI

It is usually spoken of as a food vessel; but more probably was a spice canister or something akin to it, for food could not readily be cleaned from the angular corners inside the bottom. Moreover, the tight-fitting cover, which is characteristic of this vessel, would also indicate this assumption, for it would prevent the aroma from being evaporated and lost. This vessel was in the collection of Mr. C. T. Loo of New York, who gave the print to the Royal Ontario Museum, which had already acquired several bronzes carrying the same pictograph. The graph is that of an outline of a man holding a staff or wand, surmounted by the Shang Ya of cruciform type. The present whereabouts of this vessel is unknown. Its patination was of a light green, and it was stated to have come from Anyang and to be of Shang dynasty period. This is probable, for it is a Shang type. The Museum has among its Anyang stone objects a cover of one of these vessels carved in white marble.
Ht. 11.5″; W. 5.5″; L. 6.75″

WEAPONS

1 NB.4040 KO-14 Jade halberd PLATE XVII-A

This was obtained in 1933, together with jade Ko NB.4038 and bronze Ko's NB.3979, 3980, 3975, 3974, 3977, 3976, and 3981, and various other objects including the bronze Kuang decorated with elephant designs, NB.4027 (Pl. V). (See *Illustrated London News*, May 18, 1935; extra Plate IV, Fig. 2, in colour.) The object is of cream-coloured jade of good quality, and is complete. Three jade halberds were found together: This and the following (NB.4038) were obtained by the Museum. Of the third, the present where-

abouts are unknown, but photographic prints of it are on file; it is of white jade, 12 inches in length.
L. 12.5″

2 NB.4038 Ko-15 Jade halberd PLATE XVII-B

This was found with the jade Ko NB.4040 above; the same description applies to both. (See *Illustrated London News,* April 20, 1935, p. 640, Fig. 12.)
L. 13″

3 NB.3979 Ko-61 Halberd PLATE VI-B

The butt design was reproduced in colour in the *Illustrated London News,* May 18, 1935 (extra Plate IV, Fig. 6). The butt of the Ko is inlaid with turquoise in an animal-head design, of which the eye on the obverse side of the object is rounded, while that on the reverse side is missing. Congealed bronze patches of silk cloth wrapping are evident on the obverse side. Boldness and firmness of line indicate the skill of the artisan.
L. 16.5″. Appendix E, Fig. 2

4 NB.3980 Ko-64 Halberd

Description and particulars noted in Ko-61 above apply to this object, except that this is not inlaid, and is much smaller.
L. 12.5″. Appendix E, Fig. 3

5 NB.3975 Ko-70 Halberd PLATE XX

This Ko has a pictograph on both sides of the heel. On one side is the pictograph of a man carrying a halberd on his shoulder. On the other side is a naturalistic pictograph of a tiger. From the tomb there also came a flat adze, bearing the same two graphs (NB. 3978, Pl. XXI), which was reproduced in the *Illustrated London News* of April 10, 1935 (p. 641, Figs. 13, 20).
L. 8.2″. Appendix E, Fig. 4

This important Ko (NB.3975) has been carefully investigated by the Reverend Dr. J. M. Menzies, who came to the following conclusions:

(1) The subject of these pictographs was Tzu, a "son" or "prince" of the royal house in the reign of King Wu-Ting, (1324–1265 B.C.). The family name of the royal house of Shang also was Tzu.
(2) He was named Tiger.
(3) He was the court official in charge of the ceremonial halberd or Ko.
(4) He was Marquis of Yung.
(5) He was a well-known personage, spoken of in the Oracle Bone inscriptions as Tzu-Chih.

The importance of these facts is great indeed, for by them we are able to accept a dating to that period for the Elephant Tomb, that is, to about 1250 B.C. The verbatim findings of Dr. Menzies are given in Appendix D.

6 NB.3974 Ko-95 Halberd

This was obtained in 1933, together with the laurel-leaf spearhead NB.3985 (Pl. XXIIA-B), and the triangular Ko NB.3981 (Pl. XVIII). Ko-95 has a pictograph, on one side of the butt only. It is that of a scorpion, and there is ample proof in the bone inscriptions that one Tzu-Wan ("Son Scorpion") was a "son" or "prince" of Wu-Ting's reign, and might well be a close relation of Tzu-Chih, the "tiger" and halberd-bearer.
L. 10″. Graph Chart IA-9; Appendix E, Fig. 1

7 NB.3977 Ko-133 Socketed halberd PLATE XIX

This was reproduced in the *Illustrated London News* of April 20, 1935 (p. 639, Figs. 1, 2, 4; p. 641, Fig. 15). The pictograph on this halberd is of two men seated on their heels back to back, with a club held by two hands reaching down from above between them. There is no modern equivalent for this graph, and the bone inscriptions on bronze have so far not revealed anything exactly like it. On the reverse side of the butt is a deep-cast tiger mask which had been inlaid with turquoise, fragments of which remain.
L. 8″. Appendix E, Fig. 5

8 NB.3976 Ko-138 Socketed halberd PLATE VI-A

This was reproduced in the *Illustrated London News,* May 18, 1933 (extra Plate IV, Fig. 1). Part of the wooden handle, impregnated with copper oxide, still remains both above and below the socket. Marks of straw matting cover the object on both sides. The blade is well made but not so carefully finished as NB.3977 above. The graph is that for "son" or "prince," and is found on the butt on the obverse side only. The Tzu ("son") character is found on many of the objects from this tomb, which in some cases at any rate would spring from the Tzu-Chih dedication of the tomb, or from the family name of Shang. This Tzu character is found on the ladle NB.4025, on the Ting vessel NB.4022, on this Ko, and in association with other characters.
L. 8.75″. Graph Chart IA-3; Appendix E, Fig. 6

9 NB.3981 Ko-160 Triangular halberd PLATE XVIII

This was reproduced in the *Illustrated London News,* April 20, 1935 (p. 641, Fig. 20). This halberd has two lashing holes. The pictograph is of a scaled K'uei dragon; it is found on one side of the butt only, the other side being plain.
L. 7.5″. Appendix E, Fig. 7

10 NB.3985 Socketed spearhead PLATE XXIIA-B

This is of laurel-leaf shape. L. 9.6″; W. blade 2.2″

11 NB.4037 Jade spearhead

Leaf-shaped. L. 4.25″; W. 2″

12 NB.3986 Halberd or spear butt PLATE XXIII-A

Two-pronged. L. 5.4″

13 NB.3987 Halberd or spear butt PLATE XXIII-B

Two-pronged. L. 4.4″

14 (Supplementary) Spear butt PLATE XXIII-C

Four-pronged. This particular butt did not come into the possession of the Museum, but the writer examined and photographed it, and noted its provenance. It was wrapped in many layers of cloth, probably of silk, some coarse and some fine. These wrappings, entirely solidified by corrosion, still adhered to the butt. There was a small hole in the socket through which it was nailed to the staff; and there had been a loop above one of the prongs, possibly for attachment of thong.

L. over all 5.75″, prongs 3″; Dia. socket 1.4″

Many of these pronged butts have been found, and it has been assumed that they were attached to the staff to permit thrusting the staff upright in the ground. The assumption is based on the fact that pictographs of halberds almost invariably have a pronged butt, usually of three prongs. The pronged butt was probably used in this manner, but since many of these butts are highly decorated it is also likely that a secondary use was as an auxiliary weapon.

15 NB.3988 Finial for halberd top

This is in the shape of a bear, and would be attached to the tip of the staff which protruded from the halberd socket. A halberd with such a bear-shaped ornament in position, and also of the Shang period, is in the collection of the Museum.

L. nose to tail 2.6″

16 NB.6228 YÜEH Socketed axe-head PLATES XXIIA-A, XXIIB

This axe-head is probably from the Elephant Tomb. It is decorated with turquoise inlay and the pictograph of a standing man holding a staff, surmounted by the Shang cruciform Ya symbol such as that on the two small bells (NB.4020, 4021) and the two Ku (NB.4032, 4033).

L. 7.6″

17 NB.3982 YÜEH Socketed axe-head PLATE XXIIA-C

The socket for hafting is long, the blade is celt-shaped, and the three knobs are obviously relics from a development of the Ko or halberd.

L. blade 5.5″, socket 6.5″

18 NB.3983 YÜEH Miniature axe-head

This axe-head has a socket for hafting. Cloth patches adhere.

L. 2.25″

19 NB.6417 PEN Socketed adze

This blade was probably a Ming-ch'i for funeral use. It has a sunken design of cicada and animal mask.

L. 5.6″; W. 1.25″

20 NB.3978 PEN Adze or plane blade PLATE XXI

This tool is flat and slightly tapered. It has no socket. The two pictographs on it are exactly those that are on the halberd NB.3975 (Ko-70, Pl. XX), that is, deeply sunk graphs for "tiger" and "halberd-bearer." (See Appendixes D and E.)
L. 5″; W. 1.25″

21 NB.3984 PEN Adze PLATE XXIIA-D

Socketed, and quite small. L. 2.75″

KNIVES

1 NB.3960 Knife with dragon handle PLATE XXVI-1

The blade is curved with point upturned in a peak. The cutting edge is thin, the back broad and forming a ridge. The handle is formed by a stylized K'uei dragon with open mouth, and eye in relief; the tail curled round to form a loop. It has been suggested that the sharp upturned point of the knife may have been used as a fork. Green patina, with traces of silk cloth adhering.
L. 7.3″

1a NB.6415 Knife with dragon handle

This knife is from the Elephant Tomb, but it was received after the others were listed. It is similar to NB.3960, in size, form and handle, but the dragon's crest is curled up instead of stretching out horizontally.
L. 7.3″

2 NB.3961 Knife with dragon handle PLATE XXVI-2

Similar in style to the above knife, but the blade point is somewhat more angular. The dragon is similar to that of NB.3960 above, but is more carefully decorated. The tail is curved around but not closed to form a loop.
L. 6.7″

3 NB.3973 Handle of a knife PLATE XXVI-3

This is in the form of a fish with eyes in relief, and scales and other details indicated by incised lines. The tail is forked, and a portion of the knife blade is still attached. A portion of the mouth is missing. A restoration following the dotted outline has been made to approximate the form and size of the original knife.
L. handle 2.6″

4 NB.3971 Long slender knife PLATE XXVI-4

An authority on early Chinese bronze has suggested that this knife may well have been a razor. It has a slightly curved blade. The handle is thin, flat on one side and convex on

the other, and was probably socketed against wood on the flat side. A transverse groove near the end obviously was used in the winding of the cord which probably covered the whole handle.
L. 7″

5 NB.3968 Knife PLATE XXVI-5

This knife is similar to No. 14 (NB.3966) but is much smaller and is decorated with small diagonal incised lines instead of herring-bone pattern. The handle has a ring end, and an opening throughout the greater part of its length. The knife is much encrusted, and the point has obviously broken down through corrosion.
L. 5.6″

6 NB.3972 Large sacrificial knife PLATES XXV-A, XXVII-6

This knife, which was probably used in sacrifices, is heavy and well-formed, with an upturned point and a short stub handle, which, the encrustations show, had been inserted in a wooden handle. The back of the blade is thick, ridged, and decorated with a raised criss-cross design. Light green patina.
L. 15.5″

7 NB.4050 Large sacrificial knife PLATE XXVII-7

This knife came from Anyang and probably from the Elephant Tomb; it was doubtless used in the sacrifices. It has a long curved blade with sharp upturned tip and broad back curving sharply in towards the cutting edge. The base of the blade is broad and juts out from a long straight tang. It also has a stub handle end, and the arc formed by the original wooden handle is still defined. On either side of the blade, near the base, are incised pictographs. That on the obverse (a) is a hand grasping the pictograph for "self," and that on the reverse (b) is a cruciform Ya with two parallel wavy lines which may be intended to represent running water.
L. 12.7″

8 NB.4049 Sacrificial knife PLATES XXV-B, XXVII-8

This knife has a broad curving blade with upturned point, serrated flange along the back, and a panel of incised animal-style decoration running lengthwise below. The stub handle obviously had been inserted in wood. Jade-green patina with areas of olive green and considerable encrustation.
L. 12.25″

9 NB.3964 Slender knife PLATE XXVII-9

This has a long slender blade with rounded up-turned tip, the back continuing its curve along the handle. The lower part of the handle projects and is notched where it joins the blade. The handle is ridged lengthwise and terminates in an oval ring with a small projection at the upper edge.
L. 10.5″

10 NB.3969 Knife PLATE XXVII-10

The back of the blade of this knife is broad and ridged, the point is slightly upturned and rounded. The cutting edge is corroded and chipped. The handle is almost flat and continues the curve of the blade, terminating in an oval ring with a small opening. There is a slight depression where the blade begins at the handle. Green patina with patches of rust and purple.

L. 9″

11 NB.3970 Straight knife PLATE XXVIII-11

This knife has a broad blade with a thick back, slightly upturned at the point thus widening the blade. The cutting edge is almost straight, with angular butt, and the handle has an oval ring terminal at the end, with a lengthwise ridge in the centre. The knob of bronze at the extreme end of the handle is probably excess remains from the casting. Well-preserved fragments of woven cloth adhere to the blade.

L. 11″

12 NB.3962 Knife PLATE XXVIII-12

This knife is similar in shape to the knife coins of Late Chou, but is said to have come from the Elephant Tomb. It has a broad slightly curved blade with slanted tip. The butt is cut square, the upper portion continuing in a slender handle with three lengthwise ridges, terminating in a ring with a small prong in the centre of one side—probably excess remains from the casting. A small piece of bronze is missing at the lower tip of the blade. Green patina with touches of blue.

L. 9.5″

13 NB.3967 Large knife PLATE XXVIII-13

The back of the blade of this knife is in a single ridged curve with the handle. The cutting edge is coarse and tapers to meet the back at a slightly upturned point. The handle is thick and heavy, with a ring terminal decorated with three bosses, one at the end and one at each side. Herring-bone decoration in two rows with longitudinal opening in the centre of the handle. Green patina with touches of blue and considerable encrustation of clay. The knife had been broken in three pieces.

L. 14″

14 NB.3966 Knife PLATE XXVIII-14

Similar to the latter knife (NB.3967), but smaller and with no bosses on the ring terminal of the handle. The handle is elliptical in section, with a lengthwise slot having incised decoration on either side. Bright green patina.

L. 11.5″

15 NB.4047 Knife PLATES XXIV, XXVIII-15

The handle of this knife is elliptical in section, with a lengthwise slot surrounded by a beaded decorative border on either side. The handle terminates in a horse's head, entirely

in the round, wearing a bridle decorated with a globular beading design. The head is hollow and probably contained a ball of bronze as a jingle. The eyes are perforated and the mouth and throat slotted. There is a spur on the lower side of the knife between the handle and the blade. Bright green and brown patina. Several other bronze objects with similar horse-head motifs come from the Elephant Tomb.
L. 11.5″

16 NB.3965 Knife PLATE XXVIII-16

Similar in general style to the previous three knives (NB.3967, 3966, 4047), but the handle is plain. The back of the blade and the handle are in one arched curve. The cutting edge curves up to meet the back at the point. The under side of the handle curves out to join the blade at the butt. There is a slightly transverse ridge at the butt, the handle is ridged lengthwise and terminates in an oval ring.
L. 9″

JINGLES AND BELLS

1 NB.4035 Bow-shaped jingle PLATE I

This is slightly curved in arc form, with a horse's head in the round at each end. These ends are tubular, and have a pellet of bronze in each head, which emits a tinkling sound when the object is moved. It has no decoration, but companion jingles of the same size and type are profusely inlaid with turquoise. (See below NB. 4036, 6414; also Pl. XXXVI.) By the marks of thongs at the two angles, where the central arc and the two ends are joined, it is assumed that the object was lashed to a base, but for what utilitarian purpose is a matter of conjecture. (See Appendix G.)
L. 14″

2 NB.4036 Bow-shaped jingle PLATE XXXVI

Similar in shape and style to the latter object, except that this one is decorated with turquoise inlay.
L. 15″

3 NB.6414 Bow-shaped jingle

This is similar in shape and size to the latter two jingles, and is also decorated with inlaid design. There is no inscription or pictograph on any of these three jingles, and they are all of fragile construction, very liable to be damaged unless handled lightly.
L. 14.5″

4 NB.4021 LING Bell PLATE XI-B

This bell is elliptical in shape, with plain flanges on the two pointed ends. On the sides of the bell there is a pictograph in relief of a standing man holding a staff or wand, and surmounted by a Shang cruciform Ya symbol. This pictograph is found on the pair of Ku (NB.4032, 4033) and other objects from this tomb. The bell is open at the top, over

which is a semicircular handle, but there is no sign of clapper attachment.
Ht. 4.3″; Dia. at rim, long axis 3.5″, short axis 2.75″. Graph Chart IB-5

5 NB.4020 LING Bell PLATE XI-A

Elliptical in shape and similar to the latter Ling, but is much smaller, and has the same pictograph, but only on one side.
Ht. 2.1″. Graph Chart IB-6

VARIOUS OBJECTS

1 NB.4041 Chariot fitting PLATE XXXVII-1

This is a long flat bar with ends cut at an angle, and a broad tongue-like extension in the centre of the lower side. On this extension is an animal mask with stub horns, and on the long bar are two attenuated lizards in low relief. On the back of the bar are loops for attaching thongs.
L. 6.1″

2 NB.4042 Harness plaque

This plaque is in the form of an inverted isosceles triangle with rounded base, and surface slightly convex. Socket at tip 1.65″ deep, and with loop at back for attachment. Two K'uei dragons in low relief.
L. 5.2″; W. 2.4″

3 NB.4043 Harness plaque

Similar in general to NB. 4042, but in lower relief, and slightly smaller.
L. 5″; W. 2.3″

4 NB.4044 Harness plaque PLATE XXXVII-5

This is in general similar to the previous two plaques, but larger, with heavier relief and a plain background. There were no incised details on the dragons of this plaque.
L. 5.5″; W. 2.5″

5 NB.4045 Terminal socket PLATE XXXVII-4

Square in form, with two K'uei dragons in relief, and a square hole for connecting pin or bar.
L. 6″; W. 1.3″

6 NB.4046 Terminal socket

Identical with NB.4045 with which it forms a pair. L. 6″; W. 1.3″

7 NB.3990 Slide boss PLATE XXXIV-8

Frog-shaped, with a loop at the back. L. 1.15″

8 NB.3991 Slide boss PLATE XXXIV-9
Frog-shaped; it forms a pair with NB.3990, above. L. 1.15″

9 NB.3992 Slide boss
Frog-shaped, with a loop at the back. L. 1.2″

10 NB.3993 Slide boss PLATE XXXIV-2
Cicada-shaped, with a loop at the back. L. 1.15″

11 NB.3994 Slide boss
Cicada-shaped. L. 1.1″

12 NB.3995 Slide boss PLATE XXXIV-3
This is in the shape of a donkey head in the round. L. .85″

13 NB.3996 Slide boss PLATE XXXIV-4
Convex in shape, with a five-comma design in low relief. Dia. 1.3″

14 NB.3997–4019 23 slide bosses PLATE XXXIV-5, 6, 7
These have a deeply incised mask design inlaid with turquoise, and a loop at the back. Dia. 1″ more or less.

15 NB.4048 Chariot fitting PLATE XXXV
A shaft end with a hollow socket and a dragon and cicada design in low relief. L. 6.5″; W. 3.3″

16 NB.5325 Socketed staff finial PLATE XXXI-D
This finial is of a waisted form with rounded top. Stylized cicadas surmount animal masks on the sides, and an animal mask of tiger type is on the top, all in cast incised lines. There is a small hole through the middle for a pin. It is of heavy metal.
L. 2.4″; Dia. 1.5″

17 NB.5326 Socketed staff finial PLATE XXXI-C
Similar to NB.5325, above. There is a small hole through the middle for a pin. It is of heavy metal.
L. 2.4″; Dia. 1.5″

18 NB.5327 Axle-cap PLATE XXX-A
Tapering, with a flattened end, on which is an incised (cast) tiger mask. There are dragon designs at the wide end, surmounted by stylized cicada designs. Small hole through upper portion, and slits cut below. Made of heavy metal.
L. 6.1″; Dia. 1.95″

19 NB.5328 Axle-cap PLATE XXX-B
Tapering, with a flattened end, on which is a six-pointed star within a circle. Decorated

with dragons and cicadas. There is a small hole through the upper part, and slits cut below. Similar to NB.5327 above, but not exactly the same.
L. 5.8″; Dia. 1.85″

20 NB.5329 Staff end PLATE XXXI-B

Tubular with four prongs on one end, decorated with deeply incised and stylized K'uei dragon and bird forms. Made of heavy metal.
L. 8.05″; Dia. 1.5″

21 NB.5330 Staff end PLATE XXXI-A

Similar in form and decoration to NB.5329, above. L. 7.95″; Dia. 1.6″

22 NB.5331 Appliqué ornament PLATE XXXIII-A

Roughly S-shaped, with an elongated end and loops on the under side. Made of light metal; possibly an eyebrow of a mammoth mask. (Cf. Pl. XXIX-A.)
L. 8″

23 NB.5332 Archer's thumb-ring PLATE XXXIII-B

Light-weight ring similar to a Luristan type. Grooved on one side for a cord, and with four small holes.
Dia. 1″; L. 2.1″

24 NB.5342 Plaque PLATE XXXII-A, B

This is of an irregular elliptical form; it is convex and the upper surface is decorated with cast incised lines, with two K'uei dragon forms, and with spirals and four circles containing six dots. There is a loop on the concave under surface.
L. 5.5″; W. 1.5″

25 NB.5333 Plaque or chariot fitting PLATE XXIX-A

This plaque is formed of two curved pieces joined at right angles. One member has a four-petalled design and two bosses with a hare in relief; the other has an animal-mask composition.
Ht. 2.6″; L. 7.2″

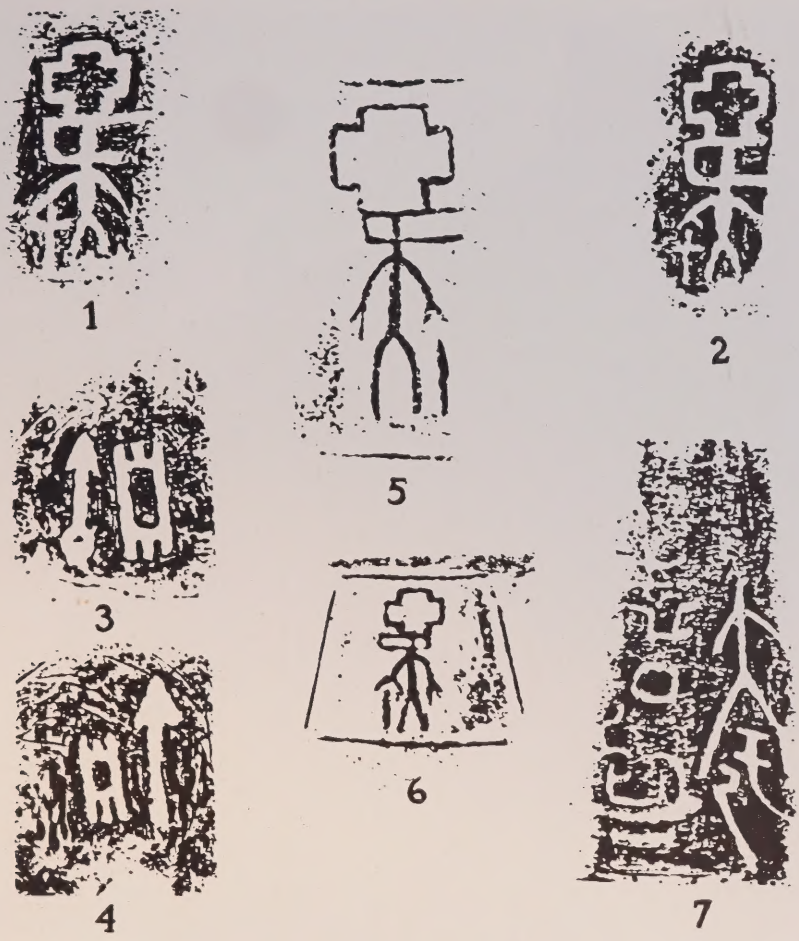
26 NB.5334 Chariot fitting PLATE XXIX-B

This is rectangular, with a semicircular projection on one side on which are a toad and two bosses.
Ht. 3.1″; L. 6.6″

27 NB.6418 Chariot ornament

This is a narrow oblong plaque with a shelf protruding from the centre at right angles. It is decorated with four K'uei dragons. At the back are two loops for tying.
L. 6.25″; Ht. 1.25″;W. 1.75″

GRAPH CHART IA—1. Chüeh: NB.4031; p. 25. 2. Chüeh: NB.4030; p. 25. 3. Ko: NB.3976 p. 31. 4. Ting: NB.4022; p. 28. 5. Lei: NB.4029 (cover); p. 28. 6. Lei: NB.4029 (vessel); p. 28. 7. Tou: NB.4025; p. 28. 8. Ku: NB.4066; p. 29. 9. Ko: NB.3974; p. 31. 10. Yu: NB.3222; p. 78 (possibly Group II or III)



Graph Chart IB—1. Ku: NB.4033; p. 26. 2. Ku: NB.4032; p. 26. 3. Ku: NB.4063; p. 97 4. Ku: NB.4064; p. 98 (this and its companion No. 3 may possibly belong to Group II or III). 5. Ling bell: NB.4021; p. 36. 6. Ling bell: NB.4020; p. 37. 7. Yang-t'ou spear: NB.4054; p. 80 (possibly Group II).

PLATE VII. Wine ewer of the Kuang type, with elephant-head cover (Supplementary; p. 27)

PLATE VIII. Wine pail of the Yu type (Supplementary; p. 27)

PLATE IXA. Covered wine beaker of the Chih type
(NB.4028; p. 27)

PLATE IXB. Line-drawing to show decoration on NB.4028 (Plate IXA)

PLATE X. Covered wine beaker of the Lei type (NB.4029; p. 28)

PLATE XI—A,B. Bells of the Ling type (NB.4021,4020; pp. 36, 37). C. Miniature bowl of the Ting type (NB.4022; p. 28)

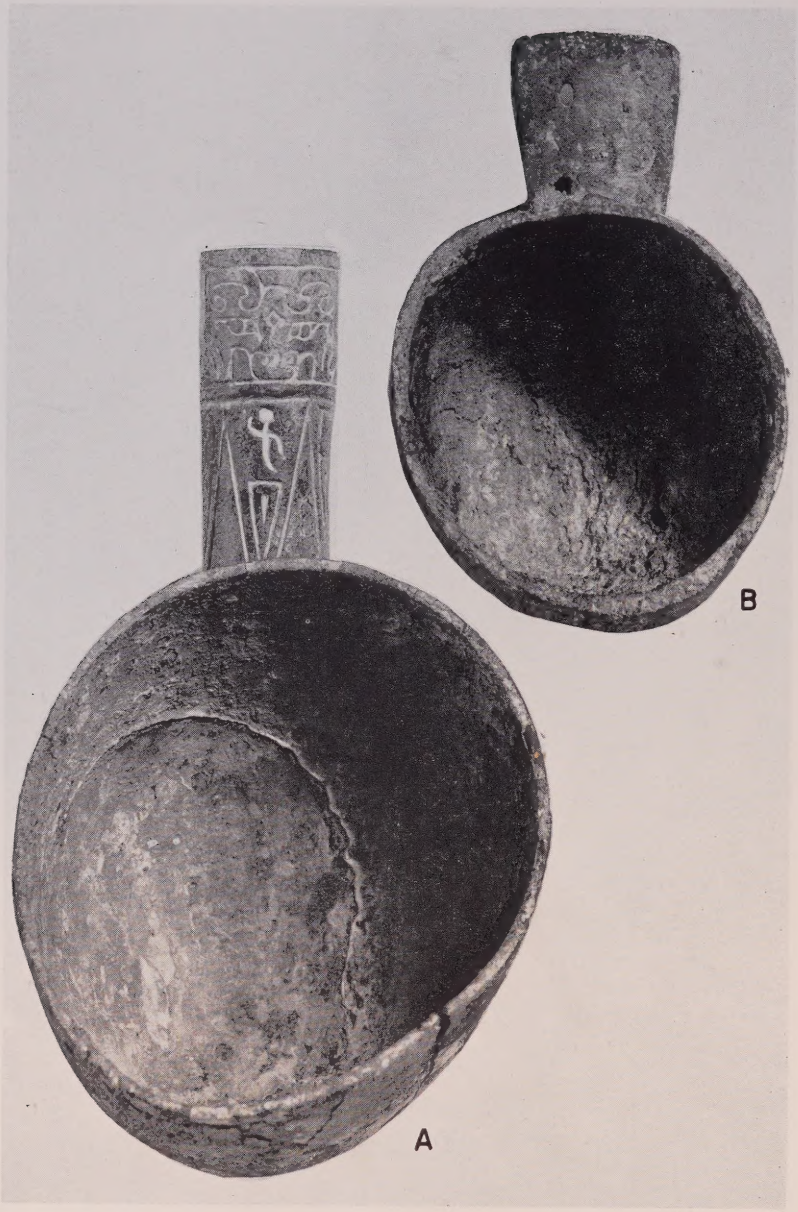


PLATE XII. Hemispherical wine ladles (Tou) with socket for handle (NB.4025,4156; p. 28)

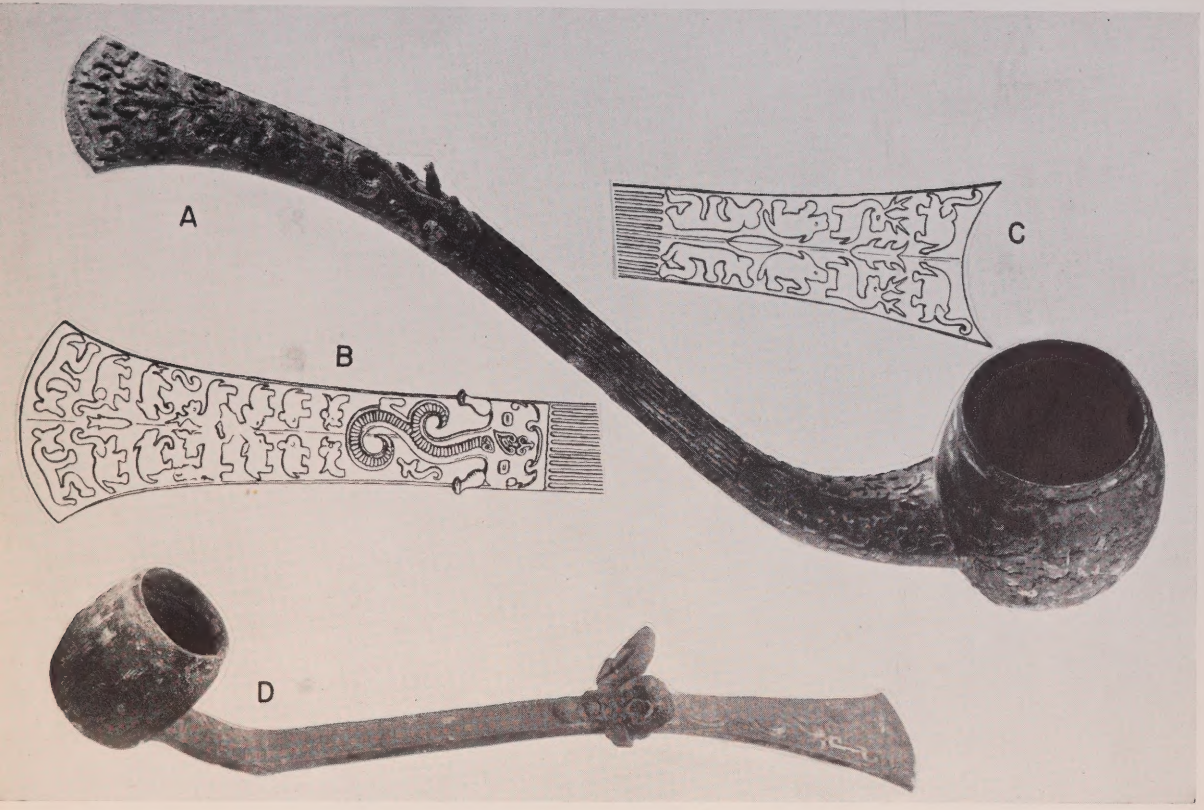


PLATE XIII—A,D. Pipe-shaped wine ladles (Tou) (NB.4024,4023; p. 28). B. Decoration on upper end of handle of NB.4024. C. Decoration on handle near bowl of NB.4024

PLATE XIV. Wine beaker of the Ku type (NB.4066; p. 29)

PLATE XV. Pair of wine beakers of the Ku type, with inscription (NB.4032,4033; p. 26)

PLATE XVI. Covered rectangular vessel (Fang-yi), with inscription
(C. T. Loo Collection; p. 29)

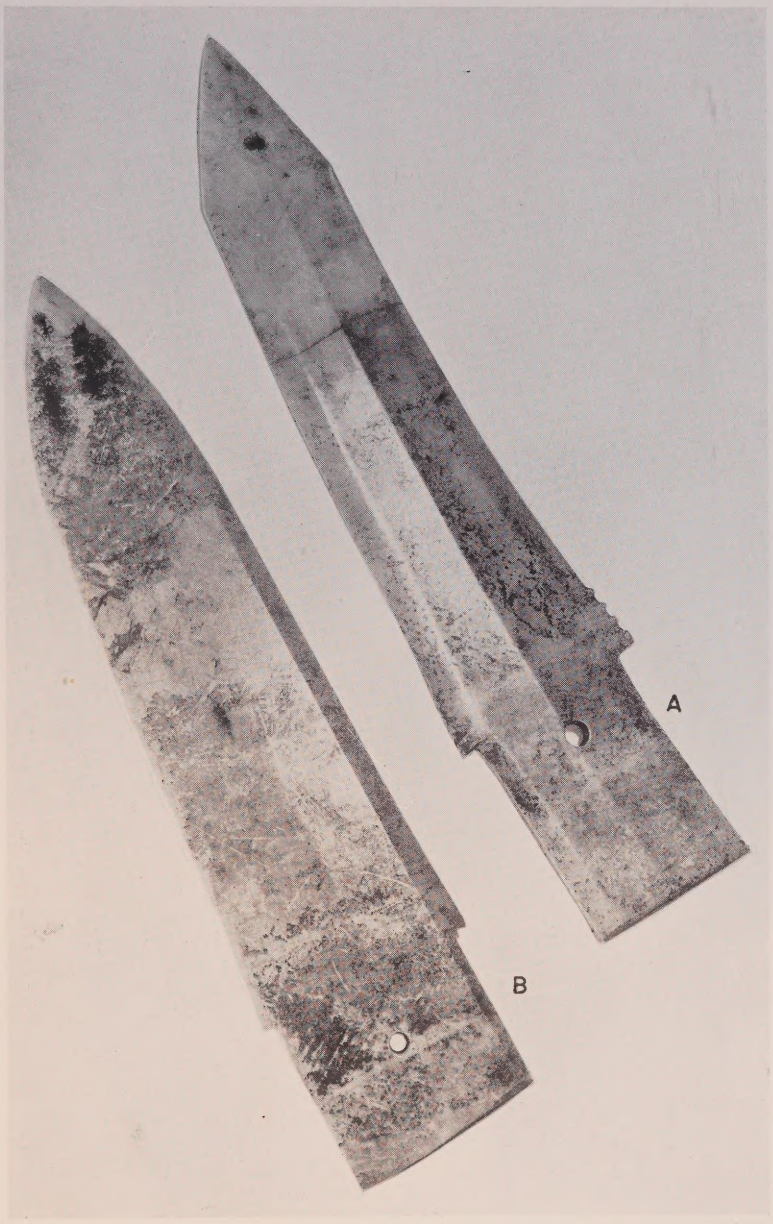


PLATE XVII. Jade halberds of the Ko type in reverse aspects (NB.4040, 4038; pp. 29, 30)

PLATE XVIII. Triangular halberd (Ko), with lashing holes (NB.3981; p. 31)

PLATE XIX. Halberd (Ko), with socket for hafting: obverse (*left*) and reverse
(NB.3977; p. 31)

PLATE XX. Halberd (Ko), with lashing hole: obverse (*left*) and reverse
(NB.3975; p. 30)

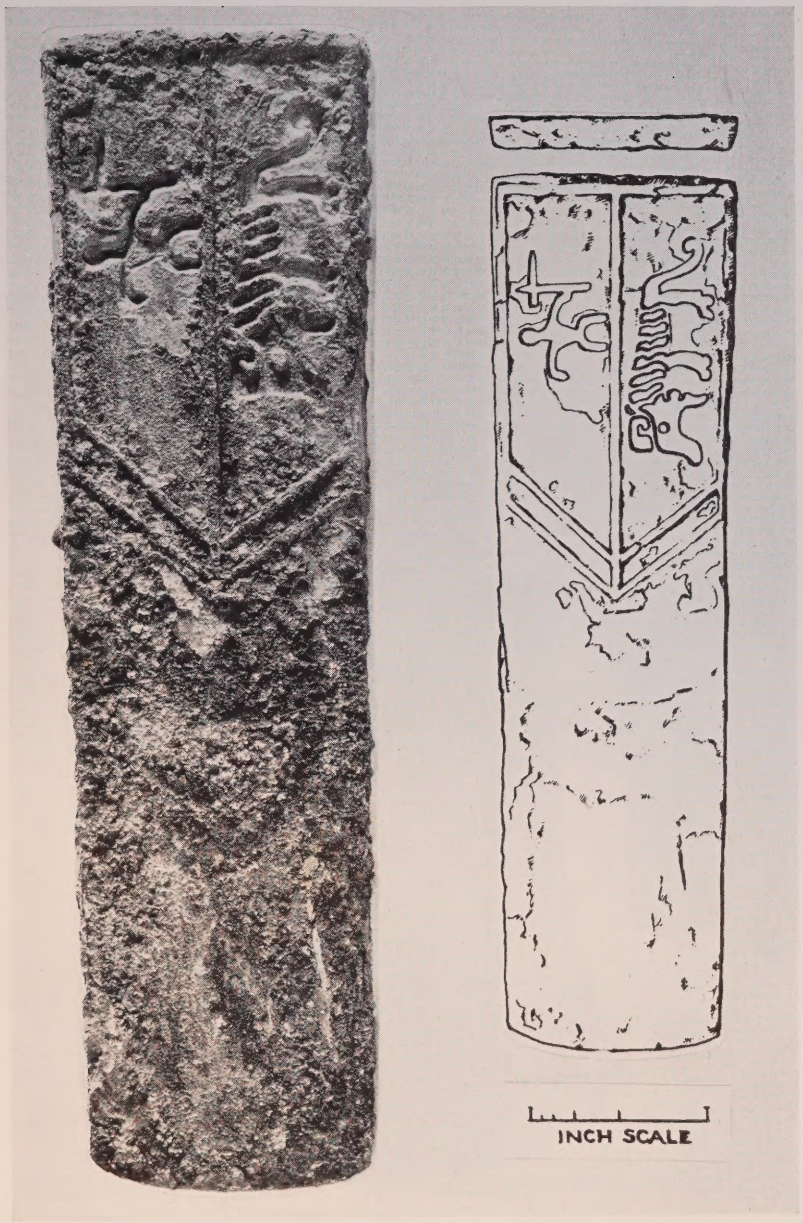


PLATE XXI. Flat adze (Pen), with inscription (NB.3978; p. 33)

PLATE XXIIA—A. Axe-head (Yüeh), with socket for hafting (NB.6228; p. 32). B. Socketed spearhead (NB.3985; p. 31). C. Axe-head (Yüeh), with long socket for hafting (NB.3982; p. 32). D. Socketed adze (Pen) (NB.3984; p. 33)

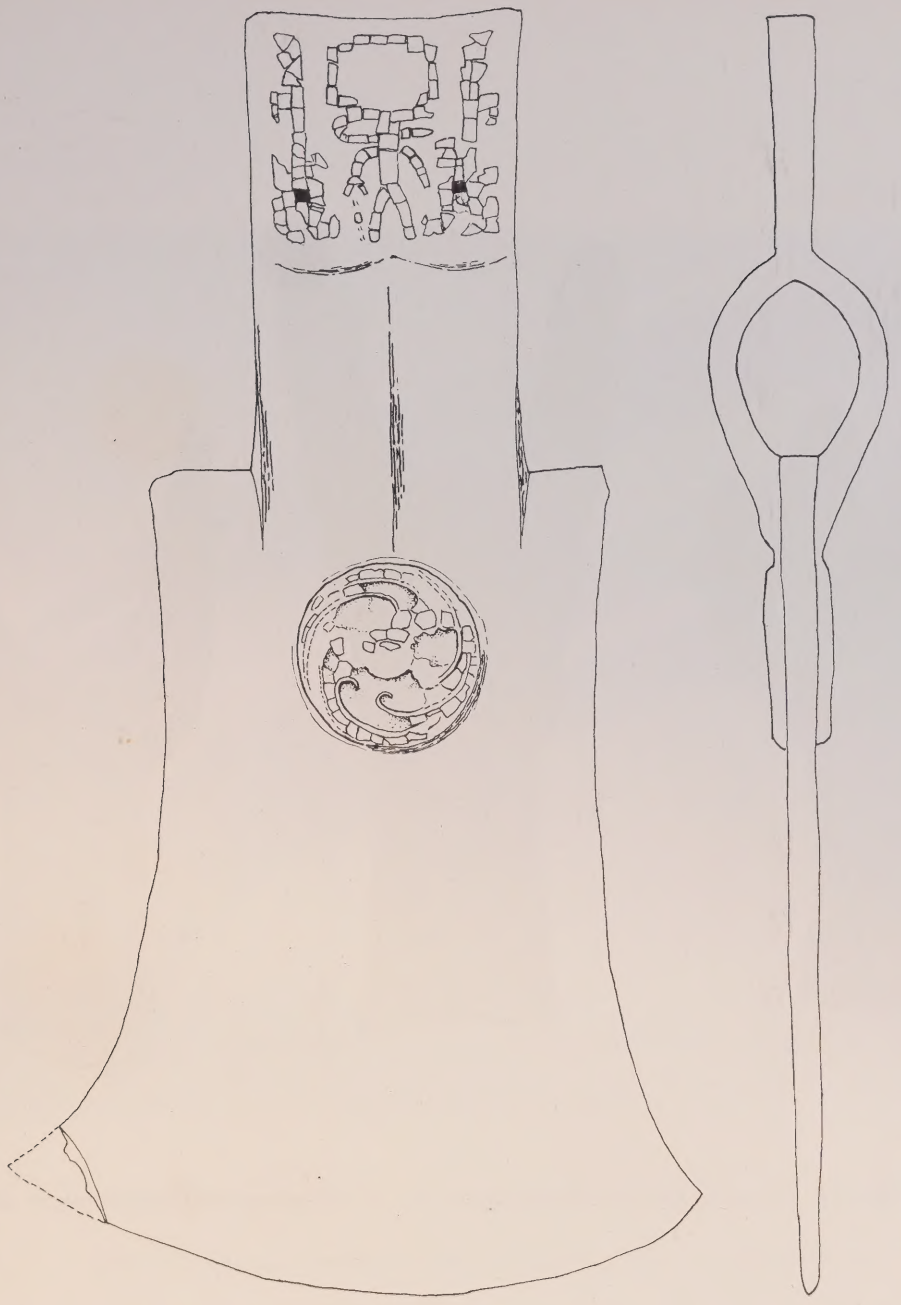


PLATE XXIIB. Line-drawing of axe-head (Yüeh) NB.6228 (Plate XXIIA—A)

PLATE XXIII—A,B. Two-pronged butts (NB.3986,3987; pp. 31, 32). C. Four-pronged butt (Supplementary; p. 32)

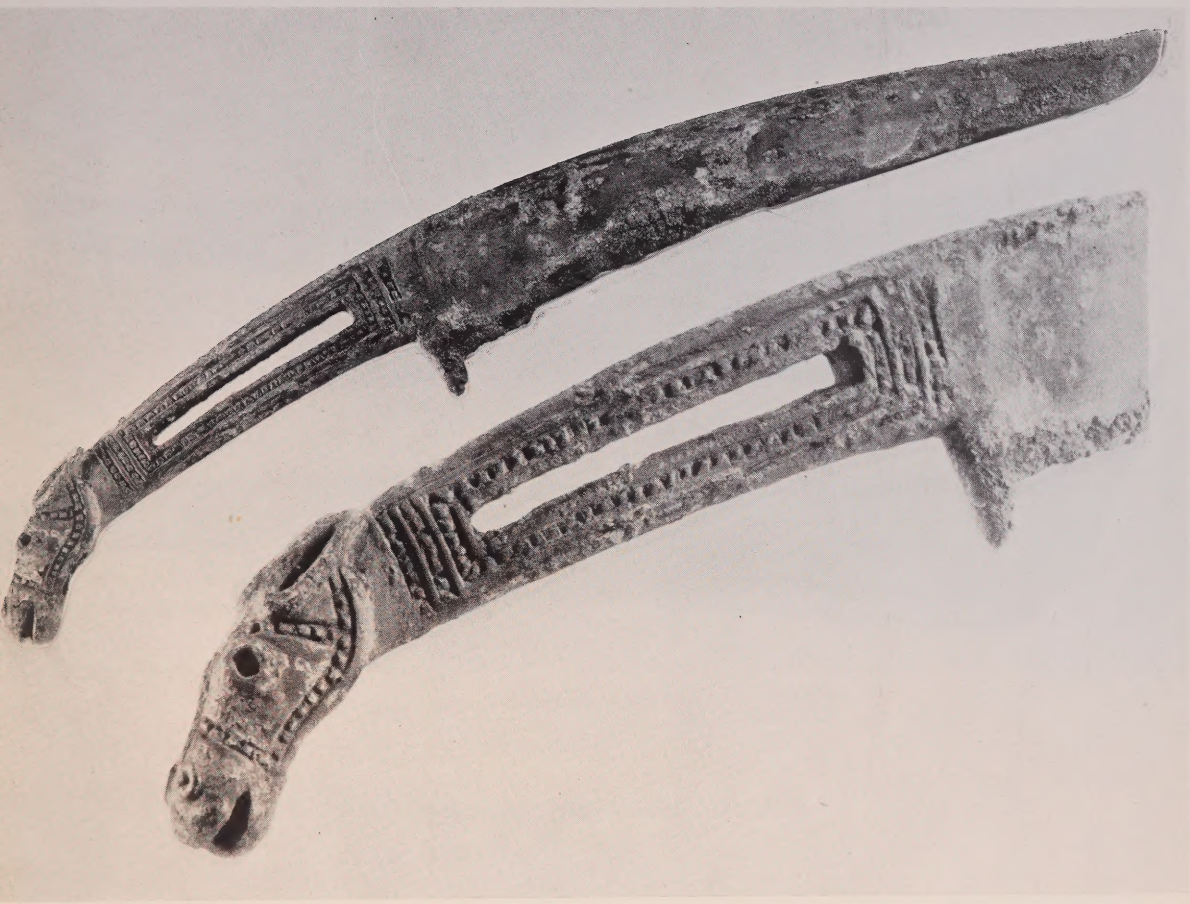


PLATE XXIV. Ceremonial knife, with handle terminating in a horse's head (NB.4047; p. 35)

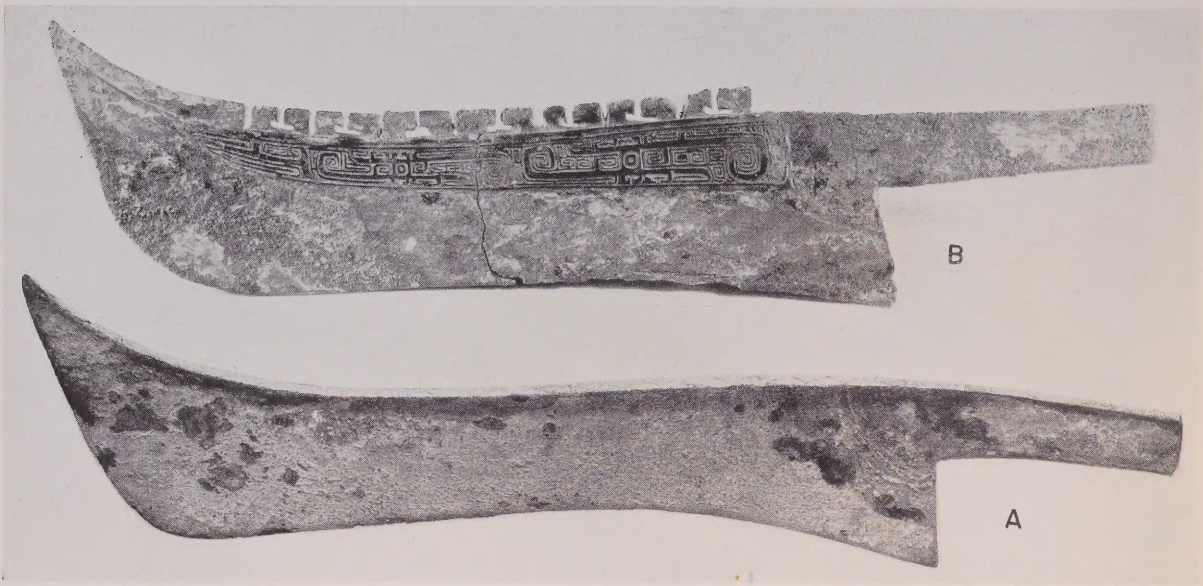


PLATE XXV. Sacrificial knives (NB.3972,4049; p. 34)

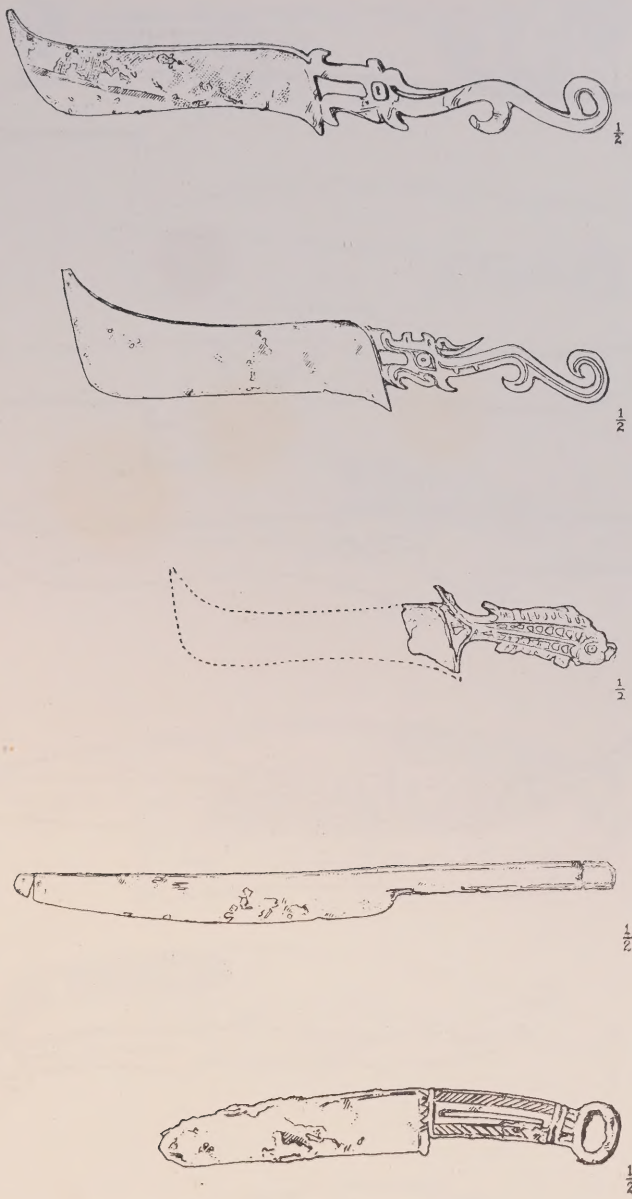


PLATE XXVI. Line-drawings of knives (NB.3960,3961,3973,3971,3968; pp. 33, 34)

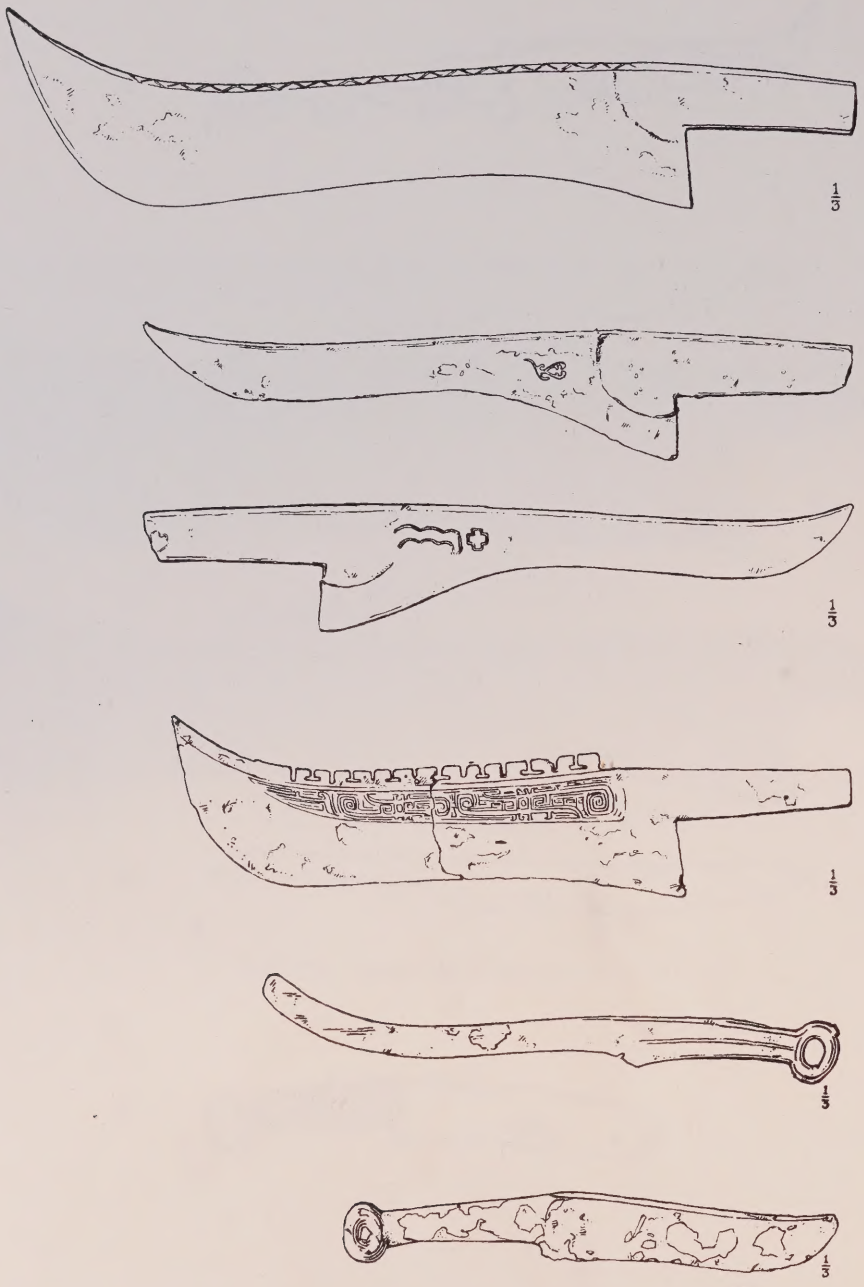
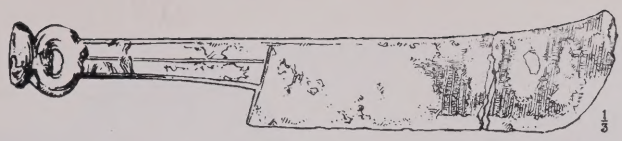
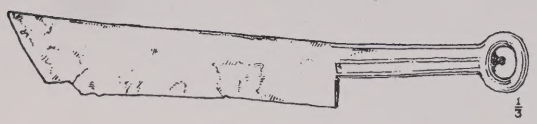


PLATE XXVII. Line-drawings of knives (NB.3972,4050,4049,3964,3969; pp. 34, 35)





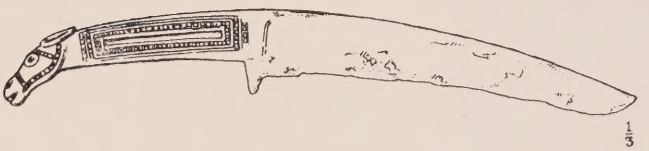


PLATE XXVIII. Line-drawings of knives (NB.3970,3962,3967,3966,4047,3965; pp. 35, 36)

PLATE XXIX. Chariot fittings (NB.5333,5334; p. 39)

PLATE XXX. Axle-caps (NB.5327,5328; p. 38)

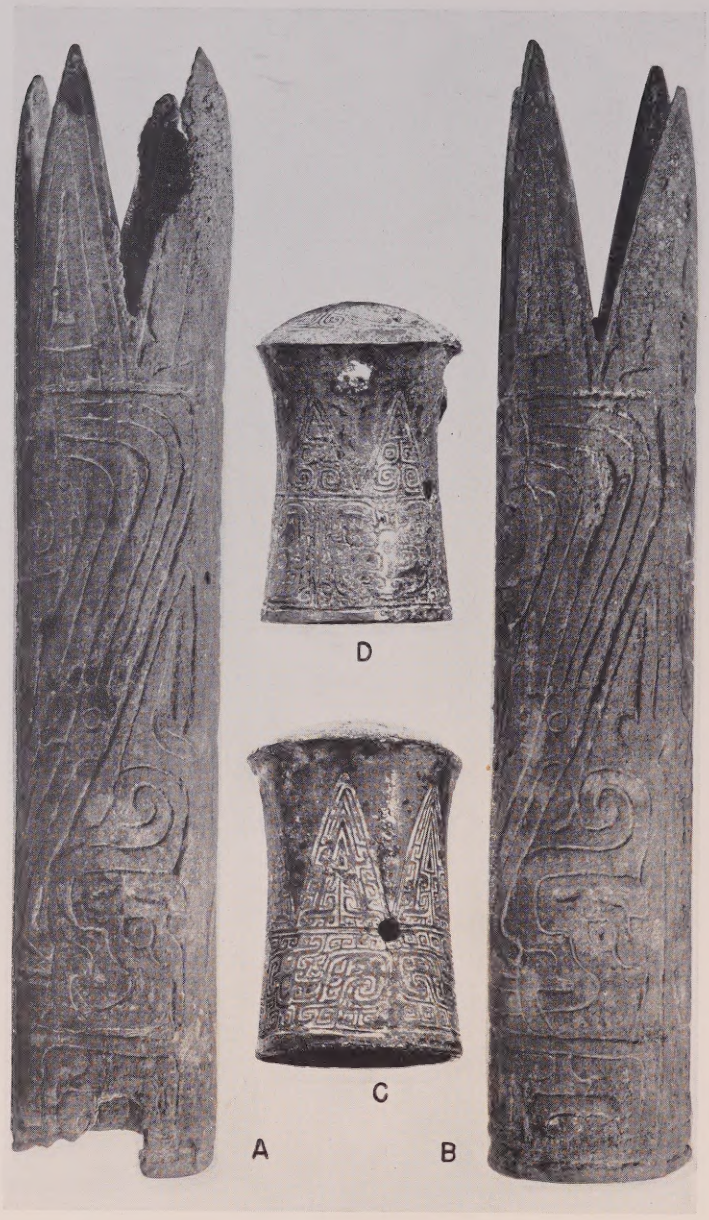


PLATE XXXI—A,B. Four-pronged staff ends (NB.5330,5329; p. 39).
C,D. Staff finials (NB.5326,5325; p. 38)

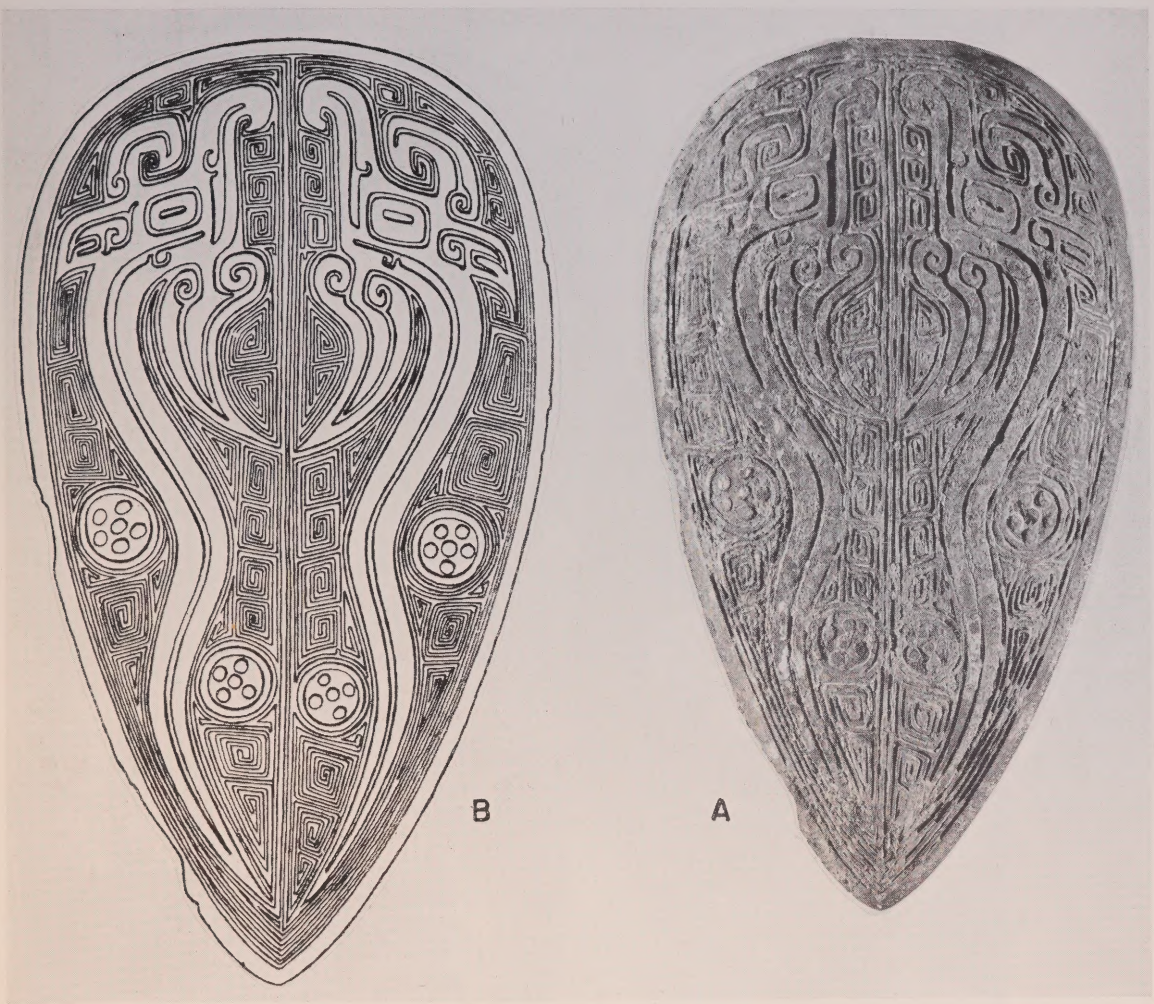


PLATE XXXII. Pear-shaped plaque (NB.5342; p. 39)

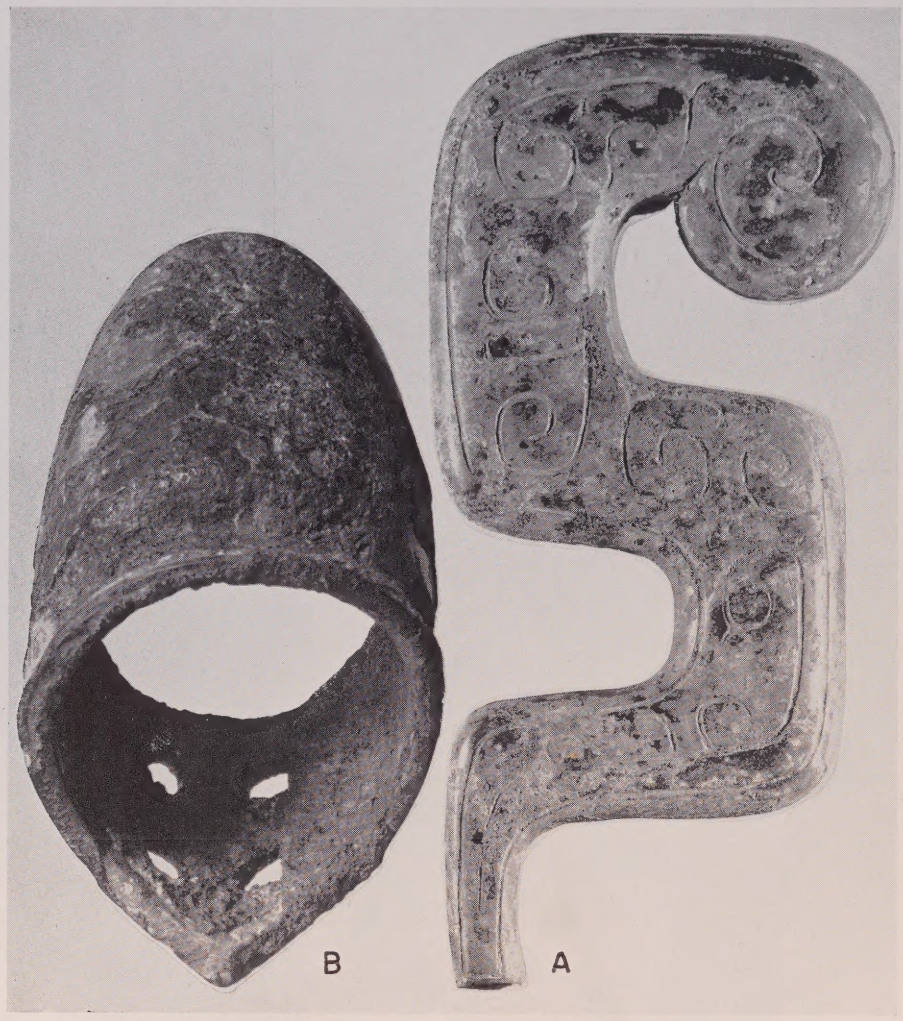


PLATE XXXIII—A. Appliqué ornament (NB.5331; p. 39). B. Archer's thumb-ring (NB.5332; p. 39)

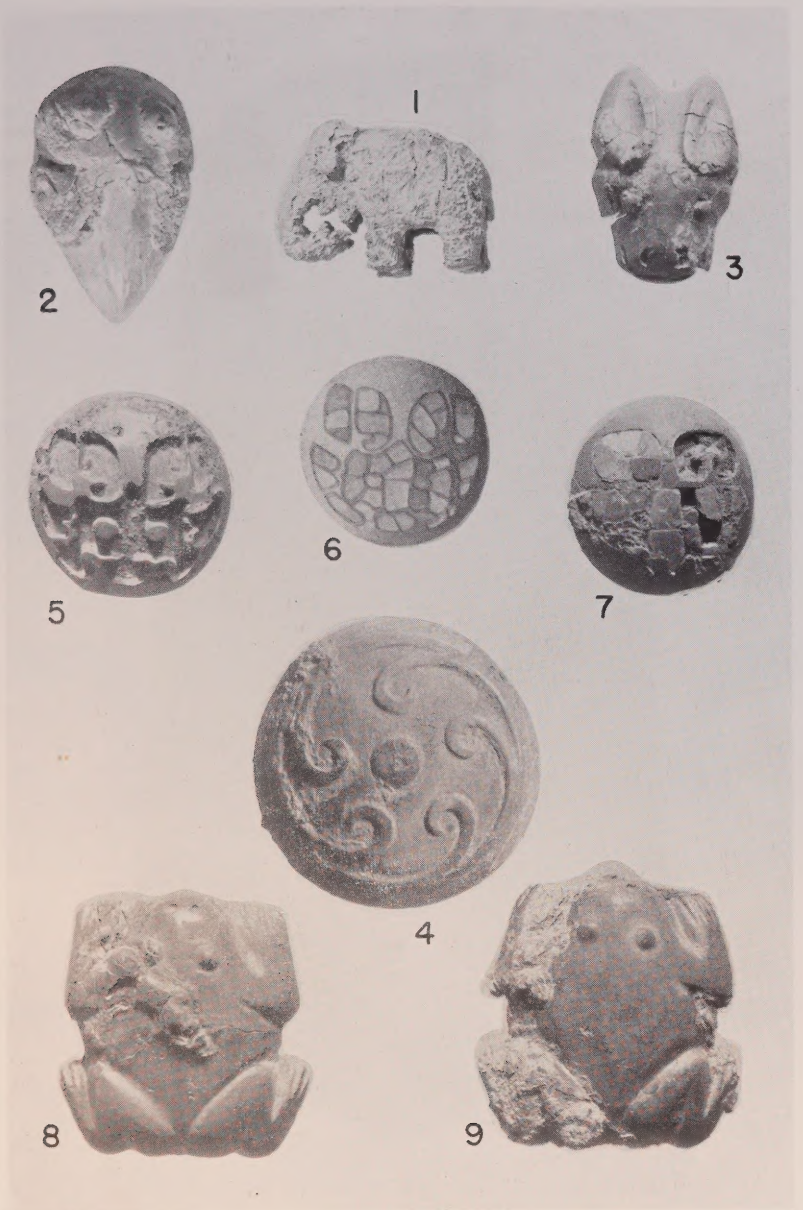


PLATE XXXIV—1. Small hollow elephant (NB.2974; p. 98). 2–9. Slide bosses (NB.3993,3995,3996,3997–4019, 3990,3991; pp. 37, 38)

PLATE XXXV. Chariot fitting (NB.4048; p. 38)

PLATE XXXVI. Bow-shaped jingle, decorated with inlaid turquoise and a horse's head at each end (NB.4036; p. 36)

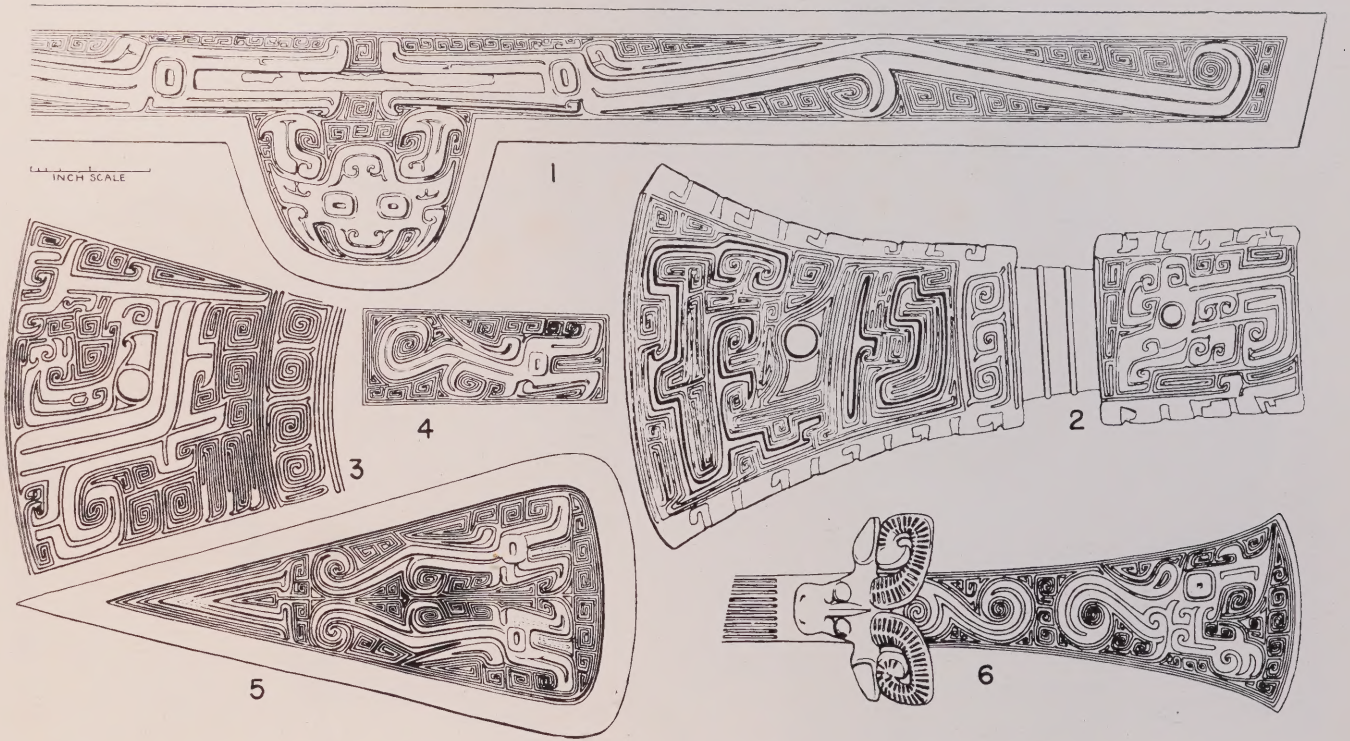


PLATE XXXVII. Line-drawings to show decorations—1. Chariot fitting (NB.4041; p. 37). 2. The two lower zones of NB.4032 (Plates IV, XV, and p. 26). 3. The base zone of NB.4034 (Plate III and p. 26). 4. Terminal socket (NB.4045; p. 37). 5. Harness plaque (NB.4044; p. 37). 6. Upper end of handle of NB.4023 (Plate XIII-D and p. 28)

GROUP II

THE HALBERD-BEARER SET

Shang. Wu-Ting Period, 1324–1265 B.C. Anyang, Honan

AT THE END OF 1931 peace once more returned to Honan when General Feng Yü-hsiang withdrew his army to the west and a new military Governor, General Liu Shih, took over control of military affairs. The Civil Governor, Chang Fang, was still in office, but the two worked well together so that life became more normal, except for famine conditions in the south of the province. Official excavations of the Academia Sinica were not immediately resumed, but free-lance excavators got busy, and a spate of archaeological material came in.

In the spring of 1932 bronze vessels of a plain but substantial type began to come from Anyang. One set, of which the Royal Ontario Museum obtained several dozen items and another collector a like quantity, was designated "The Bearer of the Halberd" or "The Ko-Bearer," because the pictograph on the vessels was of a boy or man carrying a dagger-axe or halberd on his shoulder. If the Elephant Tomb set of Group I centred around Tiger, Marquis of Yung, who was the bearer of the ceremonial halberd in the period of Wu-Ting (1324–1265 B.C.), it is more than likely that this Halberd-Bearer set was in some way associated with the same man, for the dominant pictograph was of the bearer of the halberd.

The objects of Group II were said to have been excavated at Kao-lou Chuang, a village just west of the railway and a short distance northwest of Anyang railway station. Those who know the locality inform us that the owners probably lived there, but the objects themselves were excavated in a brick kiln directly across the railway east of Kao-lou village and north of the railway station. (See Map B, Appendix H.)

A second set of vessels, Group III, similar in type but carrying a different pictograph, came out at the same time but probably not from the same pit, although they are similar in every way to the vessels of Group II. The name of the place associated with this other set is Kuo-chia Wan (Bend of the Kuo Family) which is a village in a bend of the River Huan, near the railway, and directly north of the railway station. This is not to be taken as a definite locality, but it is a fact that Groups II and III are closely associated in the area of the Anyang railway station and that the Elephant Tomb is not far away, being due west of the station towards Hsiao-t'un village, and due south of Ta-ssu-k'ung Ts'un. We thus assume that both Group II and Group III are of the same date as Group I, that is, about 1324–1265 B.C.

It might be mentioned here that in the Eumorfopoulos Collection of Chinese Bronzes there is a large and important bronze beaker of the Tsun type which carries a single pictograph of the halberd-bearer, similar to that on the Lei vessel of Group II (No. 4). It probably was dedicated to the same person, Tiger, Marquis of Yung, and may have come from the same excavation. This Tsun is 10.25 inches high, approximately, with a diameter at the mouth of 7.6 inches.

OBJECTS IN THE HALBERD-BEARER SET

1 NB.3213 CHIA Tripod wine container PLATE XLVI

This vessel is shaped for standing over a charcoal fire. It has three hollow, bulbous legs, which allow quick heating of liquid contents; a straight neck; and an everted mouth, to the rim of which are attached two rectangular posts with mushroom-shaped caps, one showing an incised scroll design, the other hidden by cloth adhering to the surface. It has a single vertical handle surmounted by an ox head. Encrusted green patina, with patches of brown cuprite. A pictograph of a man carrying a halberd on his shoulder is situated inside the rim at the handle. This vessel is similar to NB.3193 (Pl. XLVII).

Ht. 11.2″; Dia. at mouth 7.3″. Graph Chart II-1

2 NB.3214 KUEI Food vessel PLATE XL-B

This is a plain bowl-shaped vessel, with a foot-rim; obviously it was not intended for use over a fire. The body is bulbous at the base, inclining slightly to the neck; it has an everted mouth. The decoration is a deep band of rectangular scroll on the foot, and another narrower band of the same design with two animal masks in relief below the mouth. It has no handles, but has a pictograph of a man carrying a halberd on the interior base. Encrusted patina with patches of heavy cloth adhering to the surface. Grain marks cover the inside of the vessel, and solid lumps of corroded millet were obtained from the inside bottom.

Ht. 5.5″; Dia. at mouth 7.6″. Graph Chart II-2

3 NB.3217 TING Tripod food cauldron PLATE XL-A

Skeletal remains of fowl and hares have been found in similar cauldrons, but nothing was found in this vessel. The round bowl, with two loop ears perpendicular on the rim, is decorated with a band of meander design, to which cicadas are pendent and is inscribed inside with the graph of a man carrying a halberd. Remains of coarse canvas cover the rim and the ears and woven straw-like matting adheres to the lower part of one leg.

Ht. 8″; Dia. 6.2″. Graph Chart II-3

4 NB.3218 LEI (or HU) Large wine beaker PLATE XXXVIII

This has an ovoid body, a broad round shoulder, a heavy incurved neck, and an everted mouth. There are three vertical loop handles surmounted by ox heads, two placed on the shoulder and the third low on the body. On the shoulder are also six bosses with incised comma-shaped scrolls; and inside the mouth of the vessel is the pictograph of a man bearing a halberd. The patina is vivid green touched with purple and brown cuprite, while inside the vessel are lumps of brilliant malachite. This type of vessel invariably has a lid, which this specimen did not have; but it had instead a wine beaker of the Ku type (NB.3215) which took the place of a lid. This had been placed in the mouth of the Lei so that the trumpet-shaped mouth of the Ku tightly sealed the mouth of the Lei. In course of time the vessel had tipped over somewhat, and the water line on the Ku is paralleled by the water line in the larger vessel, and the Ku and the inside of the Lei carry the same sort of malachite globules.
Ht. 13.5″; Dia. at mouth 6.2″. Graph Chart II-4

5 NB.3215 KU Slender wine beaker PLATE XXXIX-A

This Ku was found inside the Lei NB.3218 which had been tilted at an angle of 45°, leaving a liquid zone mark. Crystallization of the malachite at the bottom is similar to that inside the Lei vessel. The upper trumpet-shaped half of the vessel is plain. The lower half has two zones: that above the central ridge is barrel-shaped, with highly stylized animal design; that below has a similar stylization of monsters with eyes in strong relief. The graph (man carrying a halberd) is in relief, inside the foot-rim. Inside the upper part of the vessel are traces of a coarse woven material, and slight traces of a finer cloth round the upper rim. There are flanges on the centre zone, but none on the lower.
Ht. 10.4″; Dia. at mouth 5.75″. Graph Chart II-6

6 NB.3216 CHÜEH Tripod libation cup PLATE XXXIX-B

The body of this vessel is undecorated except for three rings below the mouth. It has upright posts with conical caps, incised with a comma-shaped scroll design. The pictograph beneath the handle is of a man carrying a halberd.
Ht. 8″. Graph Chart II-5

7 NB.3224 CHÜEH Tripod libation cup

This is elaborately decorated with animal and cicada designs in high relief. Two uprights have button caps with incised scroll designs. The inscription under the handle carries two pictographs, of which the interpretation at present is unknown.
Ht. 8.25″. Graph Chart II-9

8 NB.3212 CHÜEH Tripod libation cup PLATE XLI-B

The single handle is surmounted by an animal head, inscribed underneath with a halberd graph and the cyclical character Yi. The two upright posts of this libation cup

have button caps with a scroll design, and the body of the cup is covered with animal designs on a ground of various rectangular scroll patterns.
Ht. 7.6″.Graph Chart II-7

9 NB.3330 Socketed adze
L. 3″; W. edge 1.5″

10 NB.3198, 3199 Two plaques (one illustrated) PLATE XLI-C
These are in the likeness of animal nostrils. L. 6″

11 NB.3331, 3332 LING Small bells
NB.3331 has no flanges on the ends, and no clapper. Ht. 3″; Dia. at lower edge 2″ × 1.6″
NB.3332 has flanges on the ends, but no clapper. Ht. 2.4″; Dia. at lower edge 1.75″ ×1.25″

12 NB.3219 YÜEH Battle axe PLATE XLIV
One of a pair with NB.3220. The hafting is plain, without a socket. The heel is decorated with an animal mask of tiger form, and the blade with three stylized cicadas on each surface.
L. 8.75″; W. blade 5.5″

13 NB.3220 YÜEH Battle axe
One of a pair with NB.3219. L. 8.75″; W. blade 5.5″

14 NB.3257 YÜEH Large battle axe
There was a pair of these but only one was obtained. Similar to NB.3219, but larger.
L. 9.75″; W. blade 7.5″

15 NB.3329 Arc-shaped jingle
This jingle is double-looped, with an arched connecting bar, and a single stud at the centre and on the arch of each loop. The spherical slotted ends have a rolling pellet of bronze in each—similar to Canadian sleigh-bells. There are marks of thongs at each angle for attachment. Underneath is an inscription of the two characters for "son" and "woman," which together form the word for "good," that is, Hao. (Cf. Pl. XXXVI.)
L. 13.3″

16 NB.3222 YU Wine pail PLATE XLV
This vessel is bucket-shaped, and has a cover and swing handle. It was used for containing wine or other liquid. It has no decoration except two encircling lines at the foot, and two decorative bands, one at the neck of the vessel, and the other around the cover. These bands had a background of lozenge diaper, within two lines of small circles; and the lower band was bisected with two animal heads in relief. The swing handle is moulded into rope-coil, and the cover has a high knob with vertical melon grooves. Both vessel and cover are elliptical in section. The graph inside the cover and at the bottom of the

vessel inside is the pictograph for "falling drops of rain," which is the character Ling. This vessel came with the other material of Group II, but it cannot be accepted with certainty as belonging to Group II, for vessels with the same inscription are said to have been found at Ssu-p'an-mo, a village near Hsiao-t'un. Yet an identical smaller Yu (NB.3197), with a "disk-bearer" graph, very definitely belongs to Group III (cf. Pl. XLVIII).
Ht. handle upright 12.6″. Graph Chart IA-10

NOTE

Since Groups II and III came from adjacent tomb sites (see p. 75) and the objects from each are similar in style and very definitely of the same period, it would be almost impossible to avoid a mix-up of objects from the two groups where there were no distinguishing graphs. The greatest care has been taken to avoid such a contingency, and field notes and lists and dates of accession, which are fortunately still in hand, have been a valuable help in the listing of the material of this study. Nevertheless, to avoid being committed to a definite locale when the evidence is confused, it is thought better to place the following spearheads and halberds, from No. 17 to No. 40 in a neutral group and to consider them as belonging to either Group II or Group III. However, two spearheads (NB.2773, 4059), illustrated on Plate XLIIA, are not entered in the list below, since there is a question as to their Hsiao-t'un provenance.

17 NB.2957 YANG-T'OU Spearhead PLATE XLIIB-1
This is socketed and flanged, with two slots for lashing at the bottom of the flanges. It has animal-mask and cicada decoration.
L. 9.5″; W. 2.75″

18 NB.2958 YANG-T'OU Spearhead
Identical with NB.2957. L. 9.5″; W. 2.75″

19 NB.2959 YANG-T'OU Spearhead
Identical with NB.2957. L. 9.5″; W. 2.75″

20 NB.3254 YANG-T'OU Spearhead
Identical with NB.2957. L. 10″; W. 2.75″

21 NB.3255 YANG-T'OU Spearhead
Identical with NB.2957, except that the flange does not extend to the bottom of the socket.
L. 9.75″; W. 2.6″

22 NB.3256 MAO Spearhead
In the shape of a laurel leaf with two loops on side of socket for lashings.
L. 8.25″; W. 2.25″

23 NB.2965 MAO Spearhead PLATE XLIIA-1

In the shape of a laurel leaf, socketed, with two loops on side for lashings.
L. 8″; W. 2.2″

24 NB.4053 YANG-T'OU Spearhead PLATE XLIIB-2

Identical with NB.2957, except for the addition of an inscription of two words Ta-Yü, of which the Yü is taken to be a homophone for "rain" (Yü), in which case the meaning would be "great rain," and be related possibly to an official whose duties would be to pray for rain, which would be a matter of great concern to a people dependent on agricultural pursuits.
L. 10″; W. blade 2.8″

25 NB.4054 YANG-T'OU Spearhead

Identical with NB.4053. L. 10″; W. blade, 2.8″. Graph Chart IB-7

26 NB.4055 YANG-T'OU Spearhead PLATE XLIIB-3

Identical with NB.4053, except that it does not carry the Ta-Yü inscription, but has in the upper part of the blade an incised pictograph of a spear or arrow point.
L. 10″; W. blade 2.8″

27 NB.2960 KO-43 Halberd

This is a funeral type, with a very thin blade. It has an elaborate stylized elephant-head design on the butt, which some students recognize as a highly stylized bird form. (In the Ko type-sequence lists compiled by Dr. J. M. Menzies in the custody of the Royal Ontario Museum, this is Ko-43.)
L. 11″. Appendix E, Fig. 9

28 NB.2961 KO-38 Halberd

For funeral use, with stylized animal design on the butt. L. 10.9″

29 NB.2962 KO-40 Halberd

For funeral use, with badly corroded animal design on the butt. L. 10.75″

30 NB.2963 KO-92 Halberd

For funeral use, with animal design on the butt. L. 9.4″

31 NB.2964 KO-113 Halberd

This is a strong, serviceable weapon. It has no decoration except a simple incised line on the butt.
L. 9.75″

32 NB.2966 KO-34 Halberd PLATE XLIII-A

For funeral use, with much corroded elephant-head design on the butt. Some accept

this as an eagle-head design, and it may be in some cases, but it is most decidedly an elephant head in others.
L. 14″

33 NB.2967 K0-53 Halberd PLATE XLIII-B
This is very beautifully made and might well have been used for ceremonial purposes. The design on the butt is a stylized head of a bird or elephant.
L. 14″. Appendix E, Fig. 10

34 NB.2968 K0-42 Halberd
This is also well made and was probably used in the ceremonies. The butt design is an elephant head.
L. 11.8″. Appendix E, Fig. 8

35 NB.3252 K0-39 Halberd
For funeral use. The heel design is of an animal or bird form, but corrosion has greatly obliterated the outlines. Fragments of the wood of the shaft appear to be T'ung wood, which is native to North China. Remains of a leather strap, about one inch in width, adhere to the blade, and traces of a fine mesh silk cloth are probably the remains of silk clothing against which the object rested.
L. 11″

36 NB.3221 K0-69 Halberd
For funeral use. "The design on the butt is that of a coiled dragon with pointed ear and round eye, which faces the shaft. Evidently this design has been stamped into the clay mould by a wood block carving, for while the reverse is clear and bold, the obverse shows two distinct impressions which have confused the design. This indicates that wood stamps were sometimes used to reproduce designs on clay moulds. A definite line of cleavage is seen behind the jaws, where the wood block was apparently broken and had not been replaced in perfect alignment." (J. M. M.)
L. 13.2″ Appendix E, Fig. 11

37 NB.3253 K0-123 Halberd
This has a pictograph of unknown meaning on each surface of the heel, and a strong usable blade. A note in the records states that this halberd came together with three bronze spearheads, inscribed oracle bones, white pottery sherds, stone axes, and fifteen small carved jade pendants.
L. 9 8″

38 NB.4051 K0-122 Halberd
This is a strongly made weapon, with a deeply incised pictograph sunk in the butt.
L. 9 5″

39 NB.4057 KO-121 Halberd

Identical with NB.4051 above. L. 9.4″

40 NB.4056 KO-84 Halberd

This is well made, and linked to spearhead NB.4055 by a common pictograph. (Cf. Pl. XLIIB-3.)

L. 9.6″

41 NB.3210 KU Slender wine beaker PLATE XLI-A

This vessel has all the characteristics of the Ku, but it is much taller than usual and more slender. It is the most graceful of its type in the Museum collection. It has no inscription, and the thick, bubbly corrosion has almost obliterated its original decorative designs, which would appear to have been exceptionally beautiful.

Ht. 13.3″

GRAPH CHART II—1. Chia: NB.3213; p. 76. 2. Kuei: NB.3214; p. 76. 3. Ting: NB.3217; p. 76. 4. Lei: NB.3218; p. 77. 5. Chüeh: NB.3216; p. 77. 6. Ku: NB.3215; p. 77. 7. Chüeh: NB.3212; p. 77. 8. Chüeh: NB.3225; p. 98 (possibly Group III). 9. Chüeh: NB. 3224; p. 77

PLATE XXXVIII. Wine beaker of the Lei type (NB.3218; p. 77)

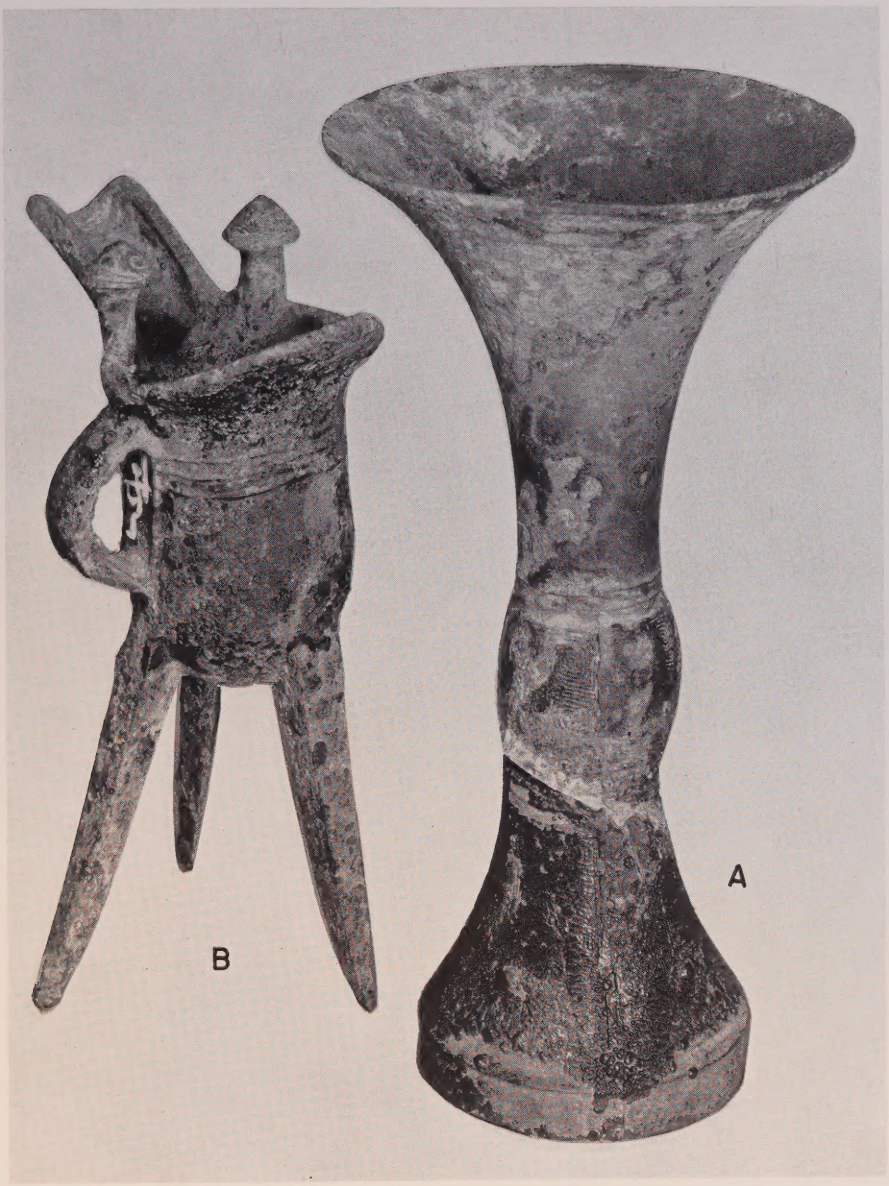


PLATE XXXIX—A. Wine beaker of the Ku type (NB.3215; p. 77). B. Libation cup of the Chüeh type (NB.3216; p. 77)

PLATE XL—A. Food cauldron of the Ting type (NB.3217; p. 76). B. Food vessel of the Kuei type (NB.3214; p. 76)

PLATE XLI—A. Wine beaker of the Ku type (NB.3210; p. 82). B. Libation cup of the Chüeh type (NB.3212; p. 77). C. Plaque (NB.3199; p. 78)

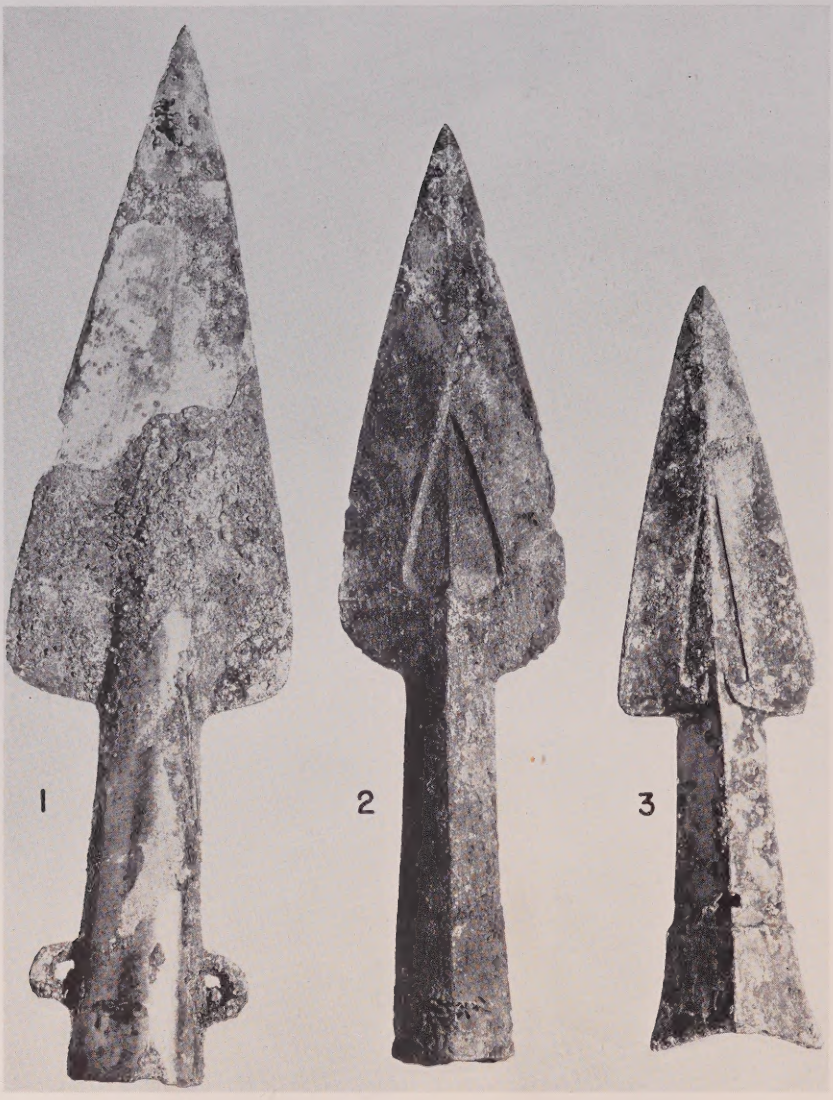


PLATE XLIIA. Spearheads of the Mao type (NB.2965, p. 80; NB.2773,4059, not listed)

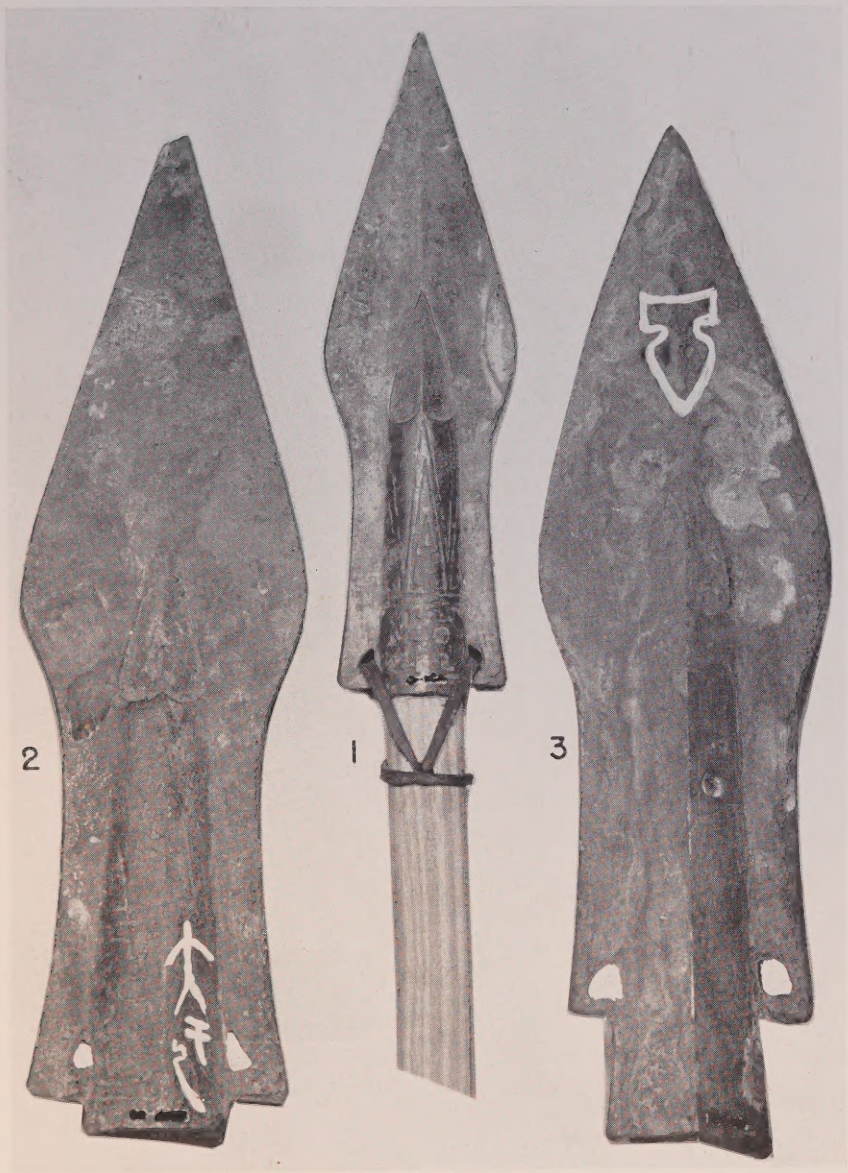


PLATE XLIIB. Spearheads of the Yang-t'ou type (NB.2957,4053,4055; pp. 79, 80)

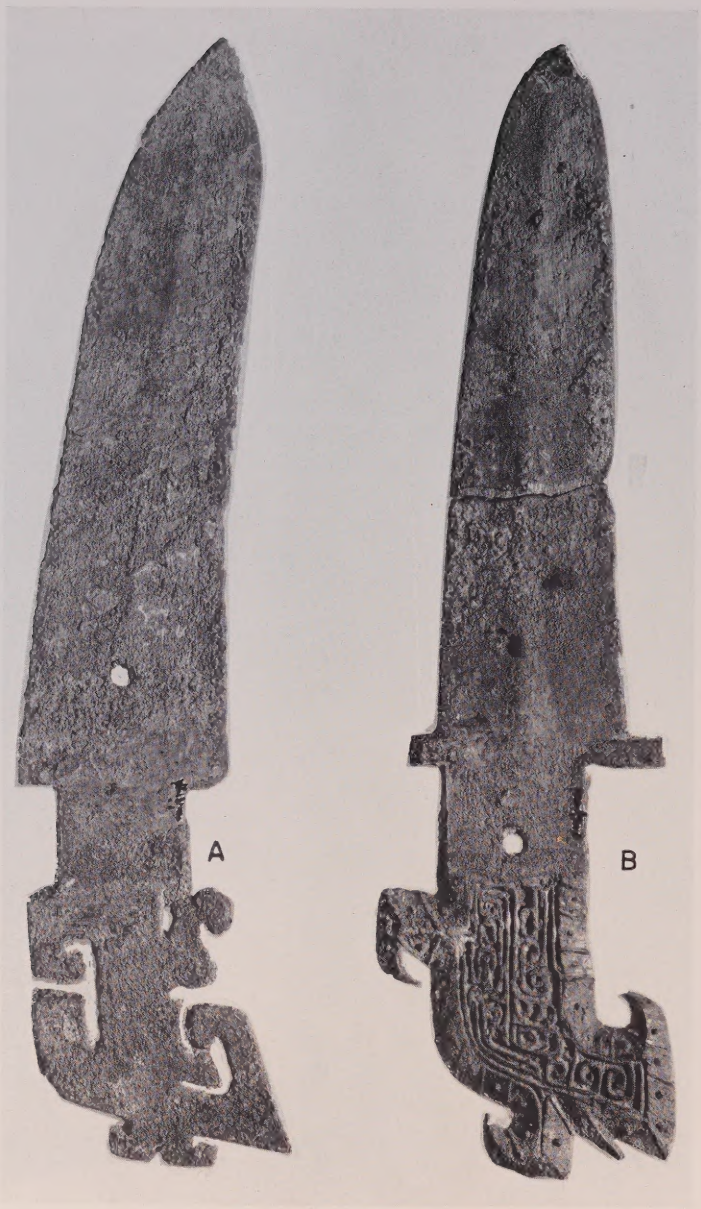


PLATE XLIII. Halberds (Ko) with bird or elephant-head design on butt
(NB.2966,2967; pp. 80, 81)

PLATE XLIV. Battle-axe (Yüeh) without socket (NB.3219; p. 78)

PLATE XLV. Wine pail of the Yu type (NB.3222; p. 78)

PLATE XLVI. Wine container of the Chia type (NB.3213; p. 76)

GROUP III

THE DISK-BEARER SET

Shang. Wu-Ting Period, 1324–1265 B.C. Anyang, Honan

THE BRONZES of the two previous groups are associated with two excavation sites, which are located not far from each other, at Anyang, and appear to be correlated with two persons.

The graphs and symbols on the objects in Group I are those of Tiger, the son (or prince), the halberd-bearer, and the Ya cross with a standing man holding a wand. The large number of knives and weapons would indicate the commemoration of a military official of high rank. The evidence points to a personage of royal status, who held an important post or posts at the court, one of which was that of bearer of the ceremonial halberd (see Appendix D).

The objects of Group II, with their dominant graph of the man carrying the halberd, might well relate to the same person who is the centre of Group I. The tomb—if it was a tomb, though it might have been an ancestral shrine—could have been that of a close relation, or a member of a clan whose perpetual office at court was that of bearer of the ceremonial halberd, and whose family crest consequently might be the graph of the halberd-bearer.

Group III, made up of objects displaying the pictograph of the Bearer of the Pi Disk, or symbol of Heaven, is also associated with the two previous groups. Some of the vessels of Groups II and III are almost identical, and if there were no distinguishing pictographs they would have to be accepted as from one set of vessels. As it is, some vessels of Group II came to the Royal Ontario Museum with vessels of Group III, and only the inscriptions enabled the cataloguers to locate the objects in their proper group.

The objects in Groups I and II are mainly concerned with official ceremonial and sacrifice, and have very little religious significance, except as may be indicated by pictographs of Ta-Yü ("great rain") on the Yu vessel (Plate VIII), and the Ta-Yü (using another character as homophone for "rain") found on some of the spearheads. These pictographs may refer to an official whose function was to pray for rain—this was possibly one of the duties of the halberd-bearer.

Group III, on the other hand, has as its dominant graph a symbol which is significantly religious. It is made up of a sacrificial vessel, a tripod of the Li type of which only two legs are apparent, held up by two hands; and above this a stylized outline of a man holding in both hands (not clearly apparent yet very definitely suggesting two hands) a disk of the Pi type.

In China the only correct way in which to present anything to anyone, or to receive anything from anyone, is to use both hands; the rule is, of course, even more firmly enjoined in the solemnity of religious worship or in an official ceremony. This pictograph of 3,000 years ago exemplifies a custom which has prevailed down through the ages to the present time. For example, when an official or social call is made, the host properly invites the guest to be seated at the northeast end of the guest hall, and tea in separate cups is brought in on a tray by the servant. The host rises (as does the guest) and takes in both hands the teacup for the guest, makes his bow of salutation, and, still using both hands, places the cup on the table by the side of the guest. (It must be admitted that such little courtesies are fast dying out in these changing days.)

The Pi is a disk of jade (sometimes, though less often, of stone) with a circular hole in the centre. Its diameter ranges from two inches to possibly two feet. In early times the disks were small and usually plain of surface, but in the Eastern Chou period they were sometimes quite large, with surfaces cut in "grain" patterns or comma-shaped spirals, or other designs. However, the Pi continued to be round and to have a round hole in the centre. It was a symbol of Heaven, and so the Altar of Heaven at Peking, or wherever the Son of Heaven should have his capital, is always round; the square jade Tsung was the symbol of Earth, and so the Altar of Earth at Peking is square.

Until recent times the Altar of Heaven at Peking was the place where Shang-Ti, the Supreme Ruler, was worshipped. During the great sacrifice of the Winter Solstice, at which the Emperor, the Son of Heaven, was the celebrant, a tablet with the name of Shang-Ti was set forth on the altar, and nearby was a green jade Pi, the symbolic Heavenly Disk. This disk symbolized God and Heaven to the people of China more than thirty centuries ago, and down through the years it continued to be a symbol in the worship of Ti, the God of Heaven.

The graph of Group III, therefore, expresses symbolically man's worship of God; and one could almost fancy this phantom outline of a man to be a disembodied soul holding up the Heavenly Disk as a token or tessara which would admit him to Heaven.

One vessel in this group (NB.3196) has a modification of the disk graph, which yet retains the basic religious idea. It is a libation cup of the Chüeh type, and it has under its handle the ceremonial vessel held up by both hands which forms the lower half of the graph, but for the upper half it substitutes for the disk-bearer the character Ti, that is, God. (See Graph Chart III-8.)

The pictograph for Ti is really one form of the word for wood (Mu), written as a faggot of three sticks of wood, to represent the fuel wood used in the sacrifice to Ti. Usually the Ti character has a fourth line placed horizontally at the centre to bind the sticks together, but early Chinese script was occasionally abbreviated by omitting a stroke or two, when possible without confusing the meaning. In this instance, the confined space under the handle would warrant the omission. (Cf. Appendix C: Ceremonial Graphs and Key, Line H, Nos. 6–9; also Line D, No. 2.)

OBJECTS IN THE DISK-BEARER SET

1 NB.3193 CHIA Tripod wine container PLATE XLVII

Similar to NB.3213 of Group II. This vessel has three bulbous legs and is shaped for quick heating of contents over a charcoal fire. It has a straight neck, an everted mouth, and to the upper rim are attached two posts with mushroom-shaped caps, decorated with small comma-shaped spiral designs. The handle is small and undecorated, but has a pictograph underneath. The vessel had been covered around the top and the neck with a coarse woven fabric. Brown cuprite is common both inside and outside, with malachite crystals attached. The pictograph is that of an attenuated human figure, holding the sacred Pi disk in his hands, while underneath is a ceremonial vessel held up by two hands. (See Pl. XLVI.)

Ht. 10″; Dia. at mouth 6.75″. Graph Chart III-4

2 NB.3195 KUEI Food vessel PLATE XLIX-A

This has a decorative band around the upper rim with stylized animal designs and three masks of feline type in relief. The lower part is also decorated with animal designs. The graph, which is the same as that on NB.3193, is of the Bearer of the Heavenly Disk (Pi), and is inside the vessel at the centre of the bottom. Most of the inside of the vessel shows stains of corroded rice; very probably when it was excavated a sediment of corroded rice was attached to the metal. (A similar Kuei in Group II (NB.3214) had been used to hold millet; the stains are small and round, and lumps of the congealed small-millet still remained in the vessel when found; indeed one solid lump is still inside the bowl.) The jade Pi is a complete round disk with a round hole in the centre. But there is also a split disk in which the circle of jade is sawn through. This must have had a symbolic significance, but no one has yet produced a meaning for it.

Ht. 5.25″; Dia. 7.1″. Graph Chart III-3

3 NB.3197 YU Wine pail PLATE XLVIII

This bucket-shaped vessel has a cover and a swing handle and was used to contain wine or other liquids required in the ceremonies. It is elliptical in shape, with a twisted thong type of handle attached to the smaller ends of the bowl. Inside the cover is the pictograph of the disk-bearer; but another pictograph of a bird facing left, is on the inside bottom of the vessel. The shape, style, and decoration of the vessel are identical with those of the Yu vessel of Group II (NB.3222); they differ only in their size and respective graphs. The decoration of the vessel is simple but adequate. Two bands, one on the cover and the other on the neck of the vessel, are in the "thunder" pattern design, with an edging of small circles, and each side is bisected by an animal mask in relief.

Ht. 7.6″; Dia. 6″. Graph Chart III-1, 2

4 NB.3194 KU Slender wine beaker PLATE LI-A

The inside of the trumpet-shaped mouth has a golden bronze surface, but otherwise the vessel is covered with encrustation showing traces of fine silk cloth. It has the usual three zones common to this type of vessel, the upper having fronds of delicate stylized cicada design, while the central and lower zones are covered with stylized animal decoration. The graph inside the lower rim is in relief, and is of a ceremonial vessel surmounted by the disk-bearer.

Ht. 10.25″; Dia. at mouth 5.75″. Graph Chart III-6

5 NB.2808 KU Slender wine beaker PLATE L

It has the usual three zones common to this type, and inside the lower foot-rim it has a graph composed of four units, including a sacrificial knife, a ceremonial vessel, the "son" or "prince" character, and an unidentified symbol. (Cf. Graph Chart III-7.)

Ht. 11.8″; Dia. at mouth 6.75″. Graph Chart III-5

6 NB.2810 LI Tripod bowl

This bowl has bulbous legs for quick heating of liquids or food. It carries a graph within the mouth of the bowl, showing a dedication to Fu-Yi, or Father Yi.

Ht. 6.25″; Dia. at mouth 5.4″

7 NB.3196 CHÜEH Libation cup PLATE XLIX-B

This cup is heavily incrusted with malachite globules. Traces of woven cloth adhere to the top. There are extended flanges, and masks in high relief of ram pattern, each flanked by a pair of K'uei dragons. The legs on this cup are also decorated; and breakages have required restorations. The handle on the side is of bovine type; and the knobs on the two upright posts are of conical shape with stub ends. The inscription is under the handle, and is a modification of the graph common to Group III. The lower half of the inscription is the same as that of the disk-bearer; but the upper half omits the disk-bearer and substitutes a faggot of sticks, which may be read "wood" (Mu), but which, as stated above, we read Ti or God. (Cf. Appendix C: Ceremonial Graphs and Key; Line H, Nos. 6–9.)

Ht. 9.9″. Graph Chart III-8

8 NB.2809 CHÜEH Libation cup PLATE LIII

This cup has the usual three pronged feet, the two spouts, and the single handle on the right side. The graph is under the handle and is a composite inscription of six units, including a sacrificial knife, the "son" or "prince" character, a dedication to Father Chi (Fu-Chi), and two incomplete characters. (Cf. Graph Chart III-5.)

Ht. 8.5″. Graph Chart III-7

9 NB.4063 KU Slender wine beaker PLATE LII-A

This vessel has the usual three zones: a trumpet-shaped mouth at the top, a barrel-shaped zone at the centre, and an extended tapering zone at the bottom. Inside the base zone is an

inscription of a "treasure box" and an arrow. This forms a pair with the next object (NB.4064).
Ht. 12.5″; Dia. at mouth 6.5″. Graph Chart IB-3

10 NB.4064 KU Slender wine beaker

This forms a pair with NB.4063 above, but it is smaller, and the graph, which is also "treasure chest" and arrow, is different in size, and is arranged with arrow up-pointed on the right, while in the graph of the previous vessel the arrow is up-pointed on the left. This might be taken as further corroboration that in early China, where pairs of vessels are used in a set, they are differentiated one for the left side and one for the right.
Ht. 11.3″; Dia. at mouth 5.2″. Graph Chart IB-4

11 NB.4065 KU Slender wine beaker PLATE LII-B

This has a short flaring mouth of thin bronze, and its barrel-shaped central zone is decorated with animal masks, carried out in a series of very fine incised scrolls, with small round knob eyes. It has a scored vertical flange on each side, running through the centre of the masks; its base is similarly decorated but without flanges. The pictograph inside the base-rim is of a bird facing right, being grasped by an up-thrust hand. This pictograph in the course of centuries became stylized to form the present modern Chinese character Ho, to grasp.
Ht. 9.5″; Dia. at mouth 5.5″. Graph Chart III-9

12 NB.3225 CHÜEH Libation cup PLATE LI-B

This tripod libation cup has spindly legs, one of which had been broken off and is repaired. The thin handle is surmounted by an animal head; and the two vertical posts which spring from the rim carry button caps with spiral design. The decoration is good, with a fine monster mask centred by the handle, and another mask on the opposite side centred by a flange, and cicada designs surround the mouth. The graph under the handle is an archaic form of "Ping"—the third of the Ten Celestial Stems.
Ht. 6.5″. Graph Chart II-8

13 NB.2974 Miniature elephant PLATE XXXIV-1

This small bronze elephant is in the round, not solid but hollow, with an opening below. There were two of these, not exactly alike, but both of the same general type. The other disappeared before reaching Canada. What was the use of this little object? It obviously could not be used as a pendant; and although miniature ceremonial vessels have been found in the tombs, this object was quite different from ceremonial types. It may have been simply a Ming-ch'i or funeral object placed in the tomb at burial. It is a matter of interest that with these two small elephants, a small stylized elephant head, carved in white marble and only three inches long, was brought in, which is now number NB.2975 in the Shang collection of the Museum.
L. 1.5″

Graph Chart III—1. Yu: NB.3197 (cover); p. 96. 2. Yu: NB.3197 (vessel); p. 96. 3. Kuei: NB.3195; p. 96. 4. Chia: NB.3193; p. 96. 5. Ku: NB.2808; p. 97. 6. Ku: NB.3194; p. 97. 7. Chüeh: NB.2809; p. 97. 8. Chüeh: NB.3196; p. 97. 9. Ku: NB.4065; p. 98

PLATE XLVII. Wine container of the Chia type (NB.3193; p. 96)

PLATE XLVIII. Covered wine container of the Yu type (NB.3197; p. 96)

PLATE XLIX—A. Food vessel of the Kuei type (NB.3195; p. 96). B. Libation cup of the Chüeh type (NB.3196; p. 97)

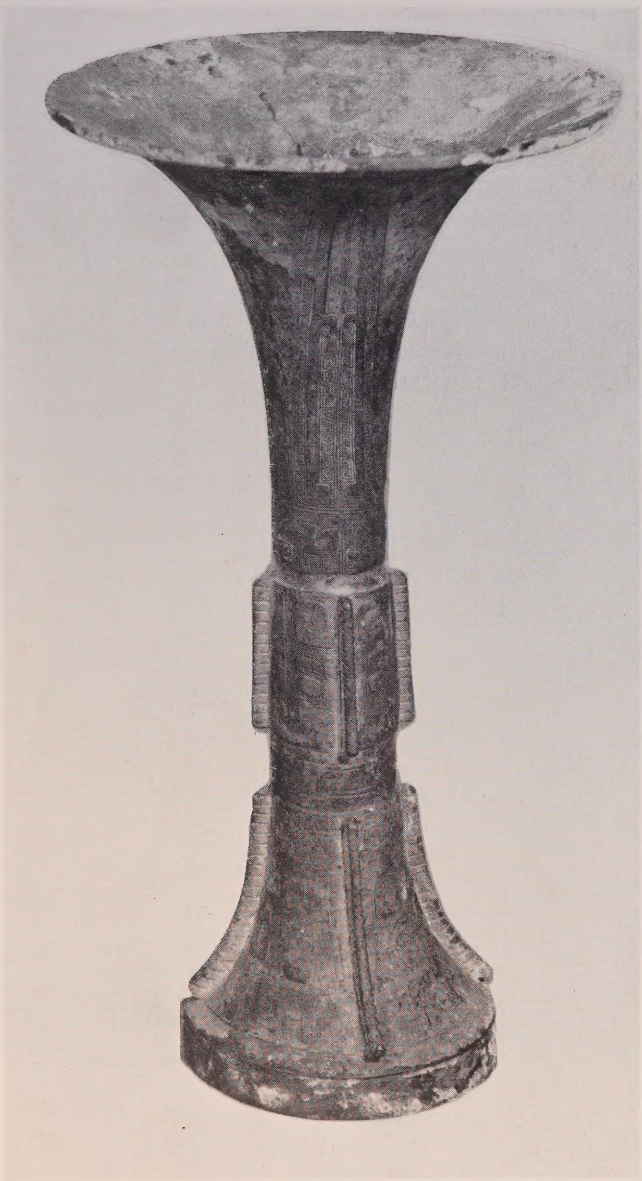


PLATE L. Wine beaker of the Ku type (NB.2808; p. 97)

PLATE LI—A. Wine beaker of the Ku type (NB.3194; p. 97). B. Libation cup of the Chüeh type (NB.3225; p. 98)

PLATE LII. Wine beakers of the Ku type (NB.4063,4065; pp. 97, 98)

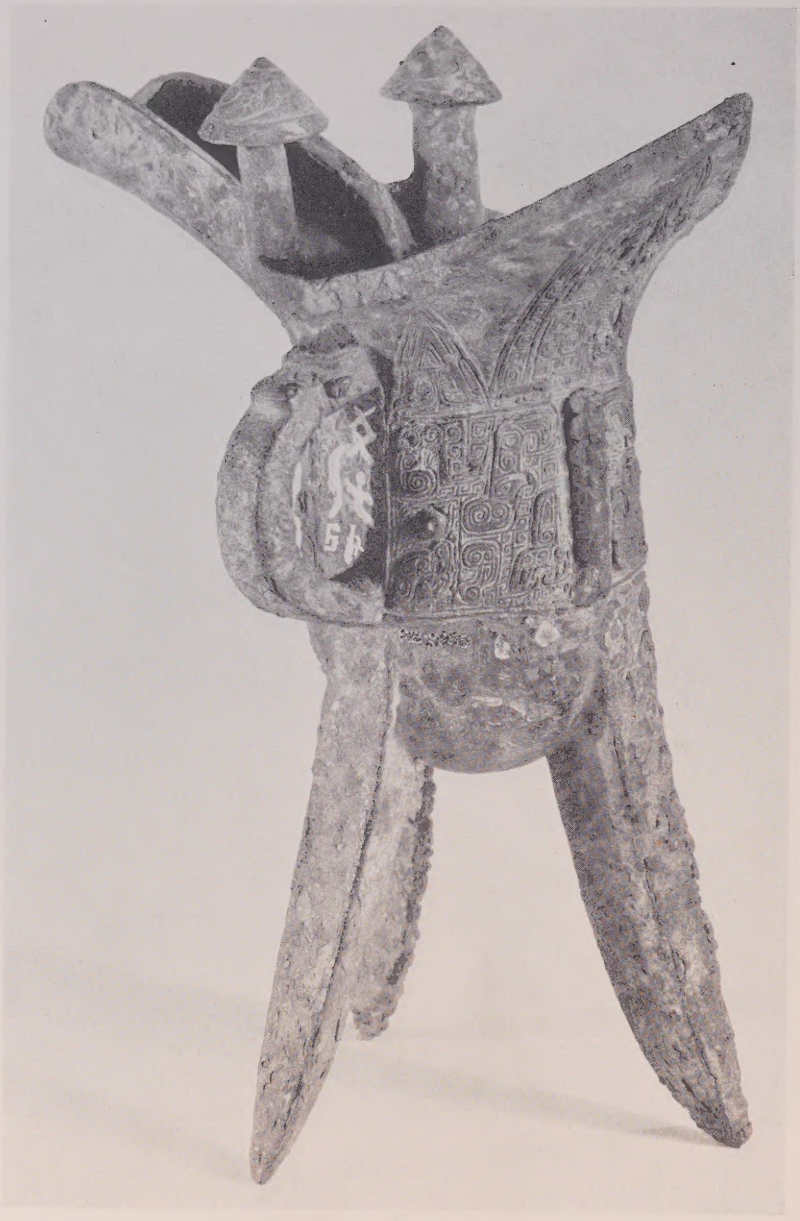


PLATE LIII. Libation cup of the Chüeh type (NB.2809; p. 97)

GROUP IV

THE ANCESTOR HSIN SET

Shang. P'an-Keng Period, *c.* 1400 B.C. Loyang, Honan

IF THIS SET had been excavated in Anyang it could have been dated definitely as Shang, but it came from the Loyang area in Western Honan, which is a Chou dynasty locality (see Map C, Appendix H). Nevertheless, the characteristic forms and designs of these vessels, and particularly the Shang pictograph on all but four of them—the others having no graph at all—make it necessary to classify the set as Shang somewhere about 1400 B.C.

There is only one pictograph on the vessels, that of the two characters Tsu-Hsin. Tsu is the word for ancestor or grandfather; Hsin is the cyclical sign for the eighth day of the ten-day cycle, and following the invariable Shang custom this would designate the natal day of Ancestor or Grandfather Hsin. The brevity of the graph and the use of the cyclical day are both characteristically Shang.

There is a more historical basis for this Shang attribution. Among the Shang kings there is a king (No. 15) called Tsu-Hsin who acceded to the throne in 1506 B.C. One of his sons, named Tsu-Ting, succeeded his father in 1465 B.C.; and his son was P'an-Keng (No. 20) who came to the throne at Yin-Hsü (present-day Anyang) about 1400 B.C. It was a prerogative of P'an-Keng that he should offer sacrifices in honour of his grandfather Tsu-Hsin; and this group of ceremonial vessels would likely be used in those sacrifices. The date would be about 1400 B.C., but the locality is not determined. King Tsu-Hsin lived at Pei, but Chinese scholars have yet to find this place, and it may well have been in the Lo valley, where his tomb shrine or altar may have been set up for the memorial sacrifices. (See Appendix A: Chronological List of Shang Kings.)

In November 1930, seven of these vessels were brought in by Loyang members of the Kaifeng dealer's staff, and three more followed in a few days' time. It was only known that they came from Loyang, and it was impossible to learn the particular spot from which they were excavated. This may have been due to the chaotic condition of the province at the time, for civil war was in progress, and from May to November that year we had been continuously subjected to aerial bombardment.

The first vessels included a Tsun wine beaker (No. 1, NB.2716), a Kuei food vessel (No. 2 NB.2719), a pair of Ku wine beakers (Nos. 3 and 4, NB.2717, 2718), a pair of Chüeh libation

cups (Nos. 5 and 6, NB.2720, 2721), and a Chih beaker (No. 7, NB.2722) made, not of bronze as all the others were, but of pewter. All had the pictograph of Tsu-Hsin, except the pewter Chih and the two Chüeh—which had no graph of any kind. The two Chüeh were unique in that neither had a handle attached to the side of the cup.

A few days later three more vessels arrived. There was another pair of Chüeh libation cups (Nos. 8 and 9, NB.2763,2764), this time with the usual handle on the side, under which was the graph Tsu-Hsin. The other vessel was a tripod cooking vessel of the Ting type (No. 10, NB.2765) which did not carry a graph (Plate LIV). There must have been many more vessels in the complete set, but these have not been brought to our knowledge except a bronze Chih, with the same Tsu-Hsin graph.

One matter of interest in regard to this set is that the two pairs of uprights that spring from the rims of the Chüeh libation cups have different tops or knobs. One pair has the so-called "inverted beaker" shape, while the other has the conical "mushroom"-shaped top. There have been attempts to consider these two kinds of knobs as characteristic of two periods of history, but the finding of these vessels together seems to point to a contemporary use of the two types.

The unique form of the Chüeh has been the subject of conjecture, and some students have suggested that its shape evolved from that of a bird. It has three solid legs (very seldom four) of a kind that would allow of its standing over a charcoal fire to heat its liquid content, and that it was so used is proved by the smoke-blackened surface of most of these cups. It has two different spouts, one flat and pointed, and the other trough-like and semicircular.

We know that the early Chinese were right-handed, as they are today. There is only one handle to the cup, and when this is held in the right hand the cup comes into proper alignment for use. That is, the pointed spout is directed away from the person holding the cup, which is convenient for pouring the libation, while the trough-like spout is in a ready position for the holder to drink from the cup. From what the writer has seen of the Confucian sacrifices in the temple at the Summer and Winter Solstices, he would assume that the wine is drunk ceremonially from the cup by the trough-shaped spout, and the remainder of the contents poured in libation from the pointed spout.

A Confucian scholar once told the writer that he had found a reference to the Chüeh cup in early Chinese literature, indicating that in drinking from it the two knobs should be in line with the eyebrows. Since the bowl of the cup is bulbous, this would allow a small quantity of wine to remain in the cup for the libation. Up to recent times Confucian scholars and officials used to spend hours daily practising the ceremonial movements that would be required in the sacrifices or at official or court functions; and doubtless in early times the proper use of the Chüeh cup would necessitate considerable rehearsal.

This evidence that wine was heated for ceremonial use in ancient China suggests that it was at that time the custom to heat wine for ordinary drinking, just as it is in China today.

OBJECTS IN THE ANCESTOR HSIN SET

1 NB.2716 TSUN Wine beaker PLATES LIV, LV

This vessel has a slightly bulbous band at the centre, with four small oval bosses hidden by encrustation. Its patina ranges from greens to purple and brilliant azurite on the base and inside bottom. The inscription on the inside bottom is of the two archaic characters "Tsu-Hsin"—Ancestor Hsin.
Ht. 9″; Dia. 7″. Graph Chart IV-1

2 NB.2719 KUEI Food vessel PLATE LVI

This container has a cylindrical foot-rim, a slightly flaring mouth, and heavy vertical handles with animal mask and pendent tongue. There are bands of scroll decoration under the top-rim and on the foot-rim. Patina of purple and green encrustation with azurite. The Tsu-Hsin graph is inside the vessel.
Ht. 5″; Dia. 6.75″. Graph Chart IV-2

3 NB.2717 KU Slender wine beaker PLATE LIX-A

This beaker has a trumpet-shaped mouth, a flaring foot, and a band with two slight flanges encircling the body. Mottled patina of green and pale purple. The Tsu-Hsin graph is inside the foot-rim.
Ht. 8.3″; Dia. 4.75″. Graph Chart IV-3

4 NB.2718 KU Slender wine beaker PLATE LIX-B

This beaker forms a pair with NB.2717. Multicoloured encrustation, with the base a vivid azurite. Graph: Tsu-Hsin.
Ht. 8.3″; Dia. 4.9″. Graph Chart IV-4

5 NB.2720 CHÜEH Libation cup PLATE LVII-A

This cup was made without a handle, and has no inscription. A single rib encircles the body, and the usual two upright posts, with inverted beaker-shaped tops, spring from the rim of the cup. Brown and green patina.
Ht. 7.6″

6 NB.2721 CHÜEH Libation cup PLATE LVII-B

This cup was made without a handle, and with no inscription. It forms a pair with NB.2720. Brown patina.
Ht. 7.5″

7 NB.2722 CHIH Small pewter beaker

This vessel is without an inscription. A similar Chih made of bronze, and carrying the graph of Tsu-Hsin, has appeared in a collection in China. This beaker is in bad condition

through disintegration of the metal. (See *Shang Chai Chi Chin Lu*, Vol. 5, p. 55, for a Chih with Tsu-Hsin graph.)
Ht. 3.25″

8 NB.2763 CHÜEH Libation cup PLATE LVIII-A

This cup has three spindly legs, the usual single handle on the right side, and under the handle the graph of Tsu-Hsin. It has two posts on the rim, each topped by a shallow domed cap. It has a mottled patina, and the design is obscured. It forms a pair with NB. 2764.
Ht. 7.5″

9 NB.2764 CHÜEH Libation cup PLATE LVIII-B

This cup has three spindly legs, the usual single handle on the right side, and under the handle the Tsu-Hsin graph. It has two posts, with shallow domed caps. The patina is plum-coloured with patches of deep blue and heavy green encrustation. It forms a pair with NB.2763.
Ht. 7.25″. Graph Chart IV-5

10 NB.2765 TING Tripod food cauldron

It has cylindrical legs and an extended rim on which are attached two upright loop handles. There is a band of decoration nearly one inch wide under the rim. The metal is thin, the body badly broken, and one leg missing. It has no graph.
Ht. 8.6″; Dia. approx. 7″

Graph Chart IV—1. Tsun: NB.2716; p. 109. 2. Kuei: NB.2719; p. 109. 3. Ku: NB.2717; p. 109. 4. Ku: NB. 2718; p. 109. 5. Chüeh: NB.2764; p. 110

PLATE LIV. The ten objects in the Ancestor Hsin Set

PLATE LV. Wine beaker of the Tsun type (NB.2716; p. 109)

PLATE LVI. Food vessel of the Kuei type (NB.2719; p. 109)

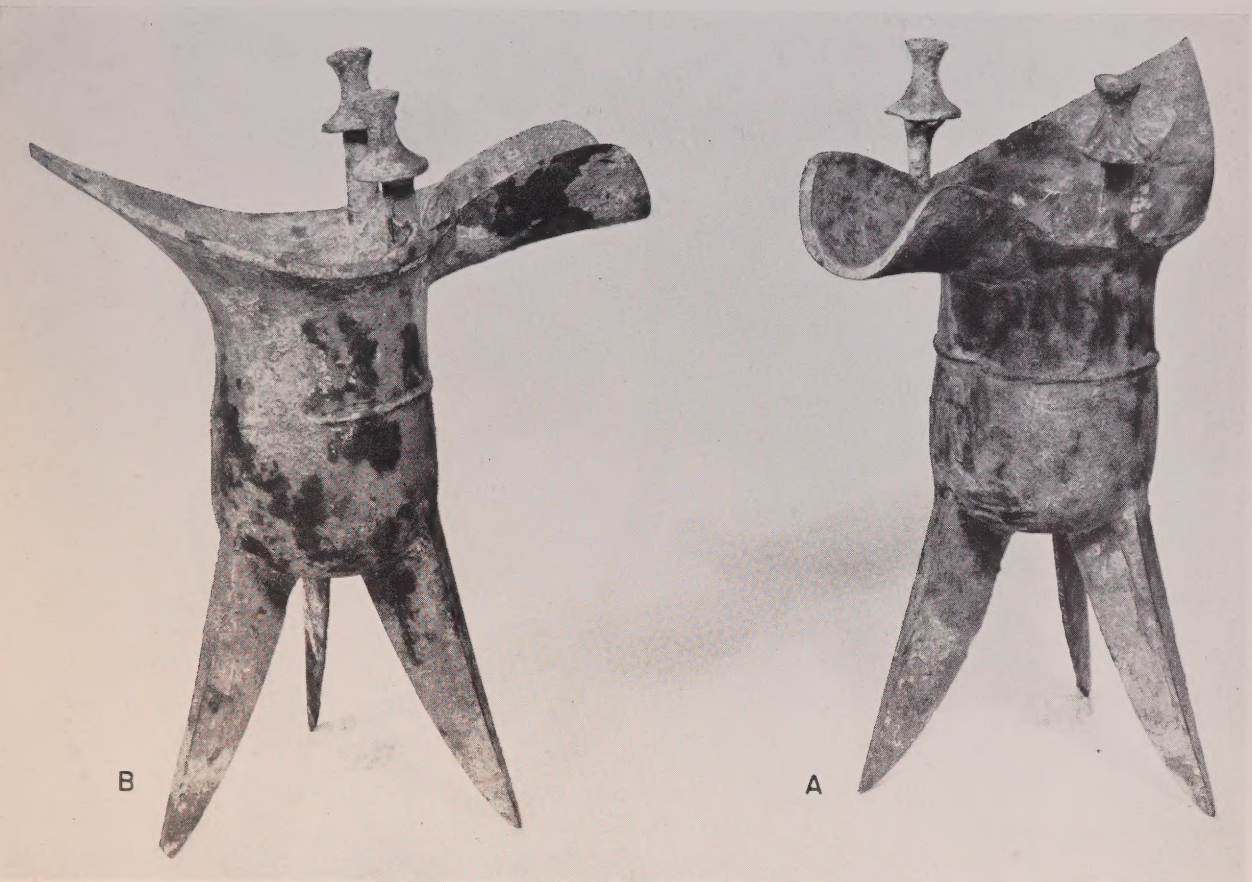


PLATE LVII. Pair of libation cups of the Chüeh type (NB.2720,2721; p. 109)

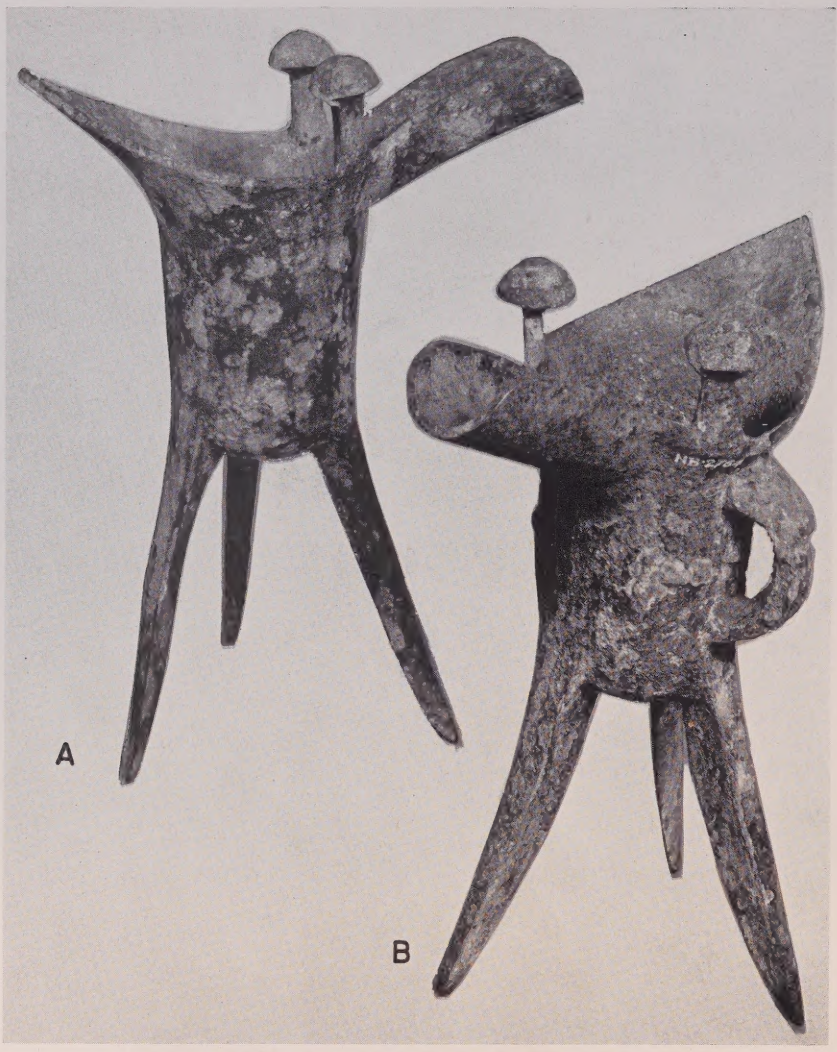


PLATE LVIII. Pair of libation cups of the Chüeh type (NB.2763,2764; p. 110)

PLATE LIX. Pair of wine beakers of the Ku type (NB.2717, 2718; p. 109)

GROUP V

THE MANG SHAN SET

Early Chou. Ch'eng Wang Period. 1115–1077 B.C. Loyang, Honan

THE MANG MOUNTAINS (Mang Shan) is a range of loess hills situated between the city of Loyang in Western Honan and the Yellow River, which, north of the Mang, flows eastward to the Pacific Ocean. The area is slashed by great gullies, and most of the people live in caves, sometimes two and even three storeys high, cut out of the loess soil.

The city of Loyang has a long and historic past, for as early as the end of the Shang dynasty (1122 B.C.), it was selected by the Duke of Chou, brother of Wu Wang, as the second capital of the state. Later, at different historical periods, it has been the capital of the nation.

In China's Classical age Loyang was a great cultural centre, and the names of Lao-tzu, K'ung-tzu (Confucius), Meng-tzu (Mencius), and many other great leaders of Chinese culture are linked with Loyang, or Honan Fu, as it was often named.

The Mang range was a favourite burial ground for great scholars and national leaders. Excavations on tomb sites, some of which are two to three thousand years old, have revealed it as one of the richest sources of archaeological material in China. Sometimes these burial locations have come to light through wash-outs in the loess, or have been uncovered by the farmer's plough, but the local people also deliberately search for such ancient tombs, as the ancient objects obtained may sell for large sums of money.

In the early autumn of 1926 a Chinese friend came to me with the story that a hoard of burial bronzes had been discovered on a site near Loyang. He had been in touch with the farmers who owned the land, and hoped to be able to purchase some of the objects. The locality was at Miao-kou (Temple Moat), which was sometimes known as Ma-kou (Horse Pit), and was just abour four miles northeast of the city of Loyang. Ma-p'o (Horse Cliff), a place noted for its finds of ancient vessels, was a short distance west of Ma-kou. (See Map C, Appendix H.) This site could not really be called a tomb, for the objects were irregularly lodged in the virgin soil.

In time fourteen of these vessels came to the Royal Ontario Museum, and are known as the Mang Shan set. A more correct name would be the Ching Fu-Yi set, for the dedication, incised in archaic script on most of the objects was to Father Yi of Ching. (See Graph Charts V (A), (B), (C).)

Naturally, our greatest interest was centred in the inscriptions, for proof of date or association with some historical personage or incident. Nothing very startling was found on the first few objects, but the Chinese friend said he had heard some of the men concerned mentioning that one of the objects had a long inscription, and that it had been sent to Peking—probably for the larger prices that could be obtained in that city. He said he would try to trace it down.

Six months later famine relief duties had taken me to Peking, where I stayed with my friends Dr. and Mrs. J. C. Ferguson. One day they told me that a Chinese from Honan had come and desired to see me. It was my friend from Kaifeng. He had traced the inscribed vessel to Peking, and found not one only, but two such vessels. He had brought them to me. He unfastened the blue cloth wrapping, and showed me the two Kuei bowls, which are now NB.2672 and NB.2673 of the Mang Shan group of bronzes.

More could be written of the interest taken in these two bowls by scholars in Peking, particularly the Professor of Archaeology of Peking University, and another famous archaeologist. The latter took Dr. Ferguson and myself into the "inner apartments" of his home, and his clever young daughter, an expert in archaic Chinese writing, transcribed the inscription on the bowl into modern script, and helped greatly in its interpretation. The two bowls were a pair, and the inscriptions cast on the inside bottom of each bowl were identical. (See Graph Chart V (B).)

Dr. Kuo Mo-jo, an eminent scholar of early Chinese culture, also showed an interest in these vessels, and has described them in his publications.[1] He speaks of them as the "Ching" vessels, and reproduced ink-rubbings of the inscriptions on the two Kuei vessels. He also reproduced an inscription on another vessel of the Yu type, which no doubt belonged to this group also, but which the Museum did not obtain. He transcribed the archaic script of these vessels into modern Chinese script, and we have taken the liberty to use his transcriptions in Graph Chart V (C).

From the style of the inscriptions, and other evidences, we place this set in Early Chou, probably in the Ch'eng Wang period (1115–1077 B.C.). The vessels of this group, minus the laver, have been reproduced in the *Journal of Oriental Studies*.[2] (See Plates LX, LXI.)

OBJECTS IN THE MANG SHAN SET

1 NB.2663 Ho (or Huo) Wine pot PLATE LXIII-A

This is shaped like a teapot, and is usually known as a wine mixer. It has four bulbous legs, one vertical handle, immediately opposite the spout, and a lid originally connected with chain links. The main decoration is a band of dragon designs around the neck of the

[1]Kuo Mo-jo: *Liang Chou chin wen tz'u ta hsi k'ao shih* (Tokyo, 1935).
[2]Kyoto, No. 23, March 1953.

vessel. The inscription originally comprised four archaic characters inside the cover, but unfortunately these are now indecipherable because of the electrical process used to arrest active corrosion.
Ht. to rim 6″; Dia. at rim 4″×4.5″

2 NB.2662 TSUN Wine beaker PLATE LXIII-B

It has a wide flaring top-rim, an outward flaring base-rim, and a bulbous centre. It is decorated with two simple lines around the bowl, with animal mask in relief on two opposite sides. The inscription on the inside bottom has five characters, "Ching tso Fu-Yi lu."
Ht. 7.4″; Dia. at mouth 6.8″, at base 5″. Graph Chart VA-1

3 NB.2664 YU Wine pail PLATE LXVI

It has a swing handle and a cover which is decorated with two simple parallel lines. Parallel lines also encircle the centre of the vessel, with animal masks in relief on the two opposite sides, and also animal heads at the handle ends. There is an inscription of five characters on the inside bottom, and also inside the cover, being the same graph as on the Tsun above (NB.2662).
Ht. to top of cover 8″. Graph Chart V(A)-6 (vessel); V(A)-7 (cover)

4 NB.2669 KU Slender wine beaker PLATE LXVII-A

This vessel is plain, except for an extended band of scroll design, one-third the distance from the bottom. It has no inscription.
Ht. 8.25″; Dia. at mouth 4.6″

5 NB.2670 KU Slender wine beaker PLATE LXVII-B

This forms a pair with NB.2669 above, and is identical in every respect.

6 NB.2667 CHÜEH Libation cup PLATE LXVIII-A

This tripod cup is used for heating liquid on a charcoal fire. It has one handle on the right side of the bowl, two spouts, one flat and pointed and the other trough-like, and also two knobbed posts springing from the rim of the cup. The graph of Fu-Yi (Father Yi) is under the handle. It has a decorative band of monsters and thunder scroll encircling the bowl of the cup.
Ht. 8.25″

7 NB.2668 CHÜEH Libation cup PLATE LXVIII-B

This forms a pair with the NB.2667 above, and is identical in every respect.

8 NB.2665 HSIEN (or YEN) Tripod steamer for grain PLATE LXV

In this vessel when it was obtained there were lumps of corroded grain, and grain marks are still evident. It has three bulbous, hollow legs, joined to an upper bowl, and inside the vessel these two parts are separated by an angular pierced grid which is detachable.

A decorative band of dragon designs encircles the bowl of the vessel just below the mouth, and two ears of thong design spring from the top of the rim. The inscription is indecipherable in part.

Ht. 12.8″; Dia. at rim 8.25″. Graph Chart V(A)-2

9 NB.2672 KUEI Food vessel PLATE LXX

It has a cylindrical foot-rim, a slightly flaring mouth, and two heavy vertical handles with animal mask and pendent tongue. A band of scroll decoration encircles the vessel below the mouth, with animal mask in relief on each side. An inscription of thirty-two archaic characters is inscribed on the inner bottom of the vessel, to the effect that "On the Jen-shen day in the last week of the 6th moon, Earl Pi-Fu terminated Yu-shih Ching's period of [military] service with a reward of metal [bronze]. Ching proclaimed the praise of Earl Pi-Fu's goodness, and used [the bronze] to make a precious ceremonial Tui [Kuei], dedicated to Father Yi [Fu-Yi]." In Graph Charts V(A) and V(B) a rubbing of the inscription is given, together with a transcription in modern character; and also a transcription of a writing on a Yu vessel, presumably belonging to this same set, which the Museum did not acquire.

Ht. 5.75″; Dia. at rim 8″, at base 7.2″. Graph Chart V(B) (long inscription) V(C)-A (transcription)

10 NB.2673 KUEI Food vessel

This forms a pair with NB.2672 above, and is identical in every respect.

11 NB.2660 LI (also called LI-TING) Small tripod bowl PLATE LXIV-A

Its hollow, bulbous legs would allow of quick heating of liquid contents. When found there were heavy traces of charcoal in the bottom, and what appeared to be wine lees inside. This vessel has two vertical loop handles at the rim. There is no decoration whatever, but an inscription inside the rim contains four characters—"Ching tso Fu-Yi," "Ching made Father Yi vessel"—which clearly links the vessel with the others in this set.

Ht. to top of handles 6.75″; Dia. at rim 5.5″. Graph Chart V(A)-3

12 NB.2661 LI Small tripod bowl PLATE LXIV-B

This forms a pair with NB.2660 above, and is identical in every respect.
Graph Chart V(A)-4

13 NB.2671 P'AN Laver or shallow bowl PLATE LXIX

Two loop handles spring from the side, and inside the high base-rim are criss-cross lines in relief on the bottom. It has a decorative border of dragon designs around the rim. The inscription in the centre of the laver is clear except for one character. The vessel has been badly broken and much mended.

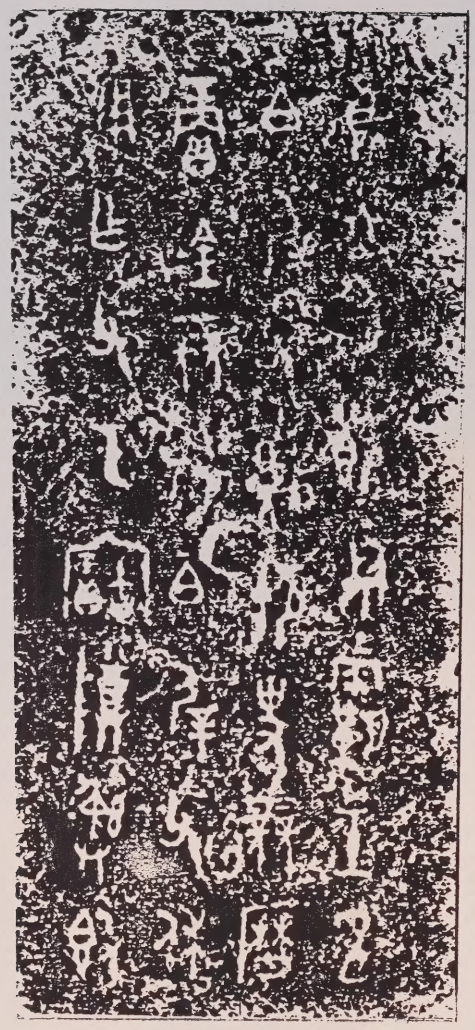
Ht. 3.5″; Dia. at rim 12″, at base 8″. Graph Chart V(A)-5

14 NB.2666 TING Food cauldron PLATE LXII

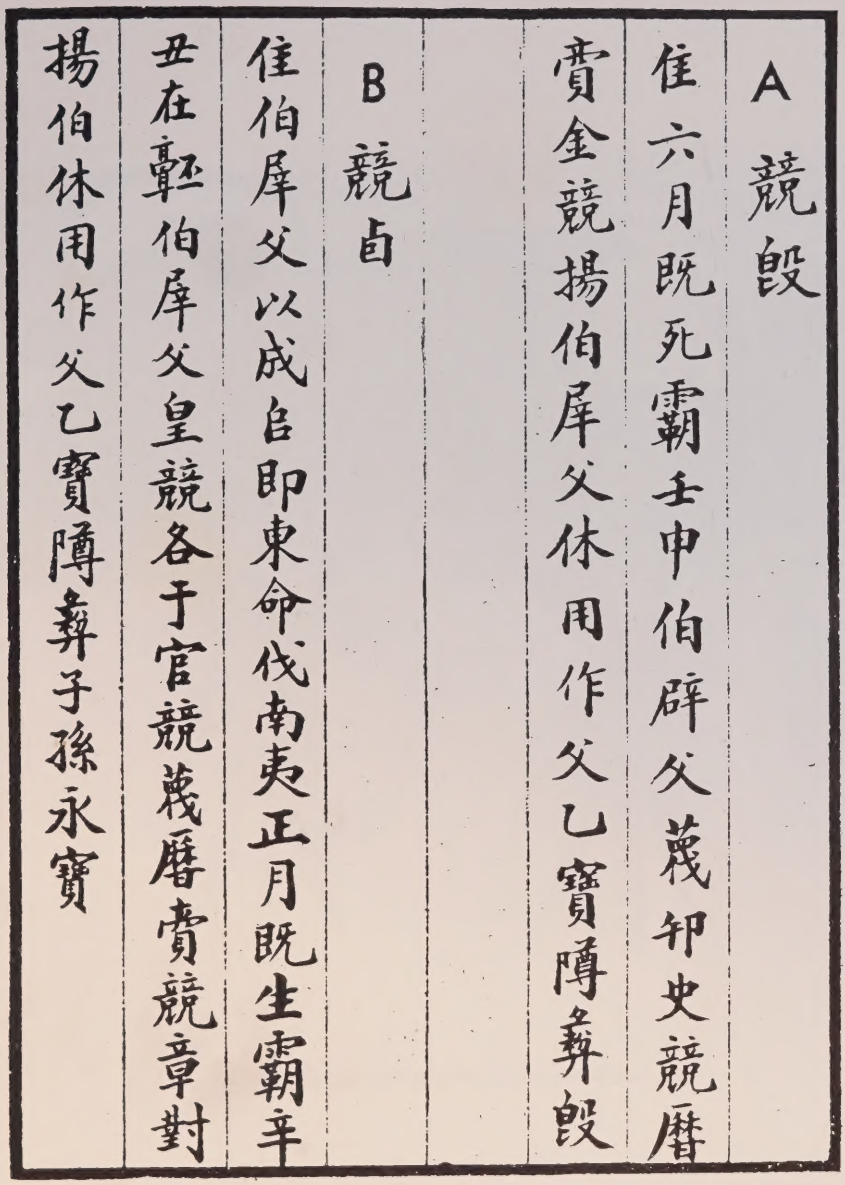
This is a bowl-shaped tripod, with two loop handles springing from the rim. There is a decorative band below the rim, and inside the rim is an inscription of four characters "Ching tso Fu-Yi." The vessel is badly cracked and warped.

Ht. to top of handles 8″; Dia. at rim 7.5″

Graph Chart V (A) Inscriptions—1. Tsun: NB.2662; p. 120. 2. Hsien: NB.2665; p. 120. 3. Li: NB.2660; p. 121. 4. Li: NB.2661; p. 121. 5. P'an: NB.2671; p. 121 6. Yu: NB.2664 (vessel); p. 120. 7. Yu: NB.2664 (cover); p. 120



Graph Chart V (B) Long Inscription—This is found on each of the two Kuei vessels, NB.2672, 2673; p. 121



GRAPH CHART V (C) TRANSCRIPTIONS—A. Transcript from the archaic characters of the long inscription of the two Kuei vessels, NB.2672, 2673; translation given on p. 121. B. Transcript of a long inscription on a vessel of the Yu type, undoubtedly belonging to this same group, which Dr. Kuo Mo-jo has published in his book *Liang Chou chin wen tz'u ta hsi k'ao shih* (Tokyo, 1935)

PLATE LX. Vessels of the Mang Shan Set (Nos. 1–7)

PLATE LXI. Vessels of the Mang Shan Set (Nos. 8–14)

PLATE LXII. Food cauldron of the Ting type (NB.2666; p. 122)

PLATE LXIII—A. Wine pot of the Ho type (NB.2663; p. 119). B. Wine beaker of the Tsun type (NB.2662; p. 120)

PLATE LXIV. Pair of small bowls of the Li type (NB.2660,2661; p. 121)

PLATE LXV. Tripod steamer of the Hsien type (NB.2665; p. 120)

PLATE LXVI. Wine pail of the Yu type (NB.2664; p. 120)

PLATE LXVII. Pair of wine beakers of the Ku type (NB.2669,2670; p. 120)

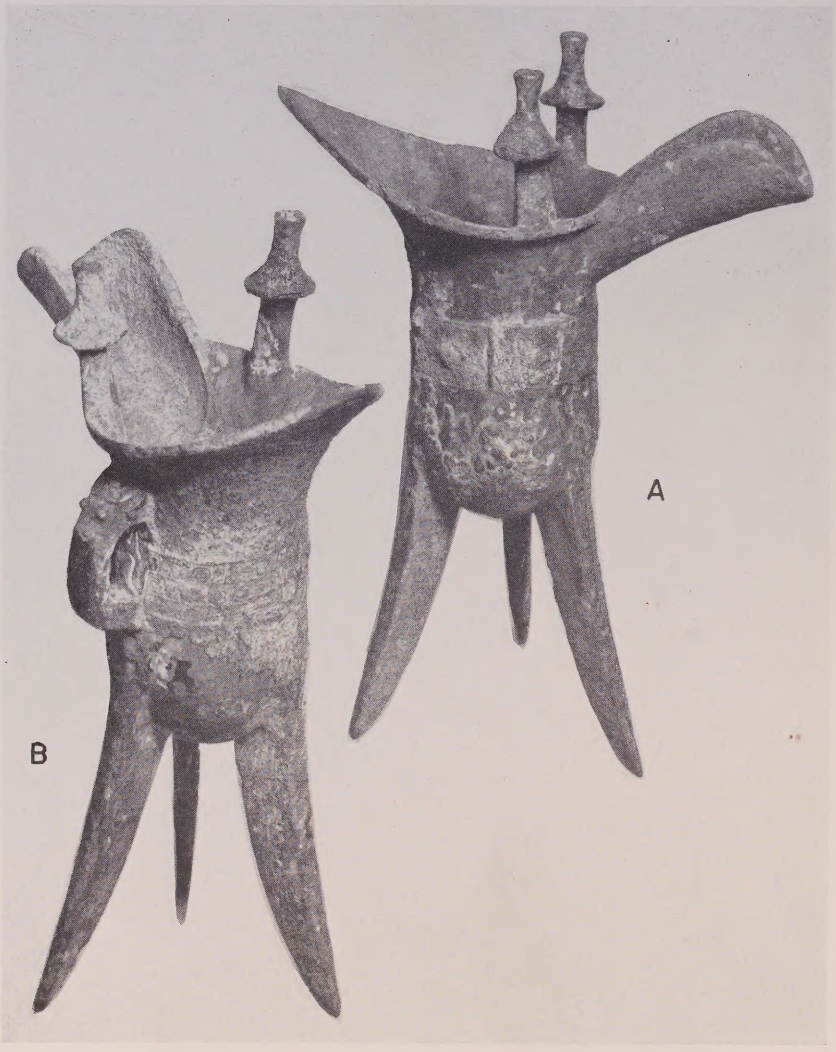


PLATE LXVIII. Pair of libation cups of the Chüeh type (NB.2667,2668; p. 120)

PLATE LXIX. Laver of the P'an type (NB.2671; p. 121)

PLATE LXX. Food vessel of the Kuei type (NB.2672; p. 121)

GROUP VI

THE CH'EN-CH'EN SET

Early Chou. Ch'eng Wang Period, 1115–1077 B.C. Loyang, Honan

THE ROYAL ONTARIO MUSEUM has four vessels which belong to the well-known Ch'en-Ch'en group. It is said that there are now about one hundred items of this group in various collections in Japan, China, the American continent, and Europe. It is assumed that they are items of different branches of a composite group more or less associated with one central personage. The date is still under question, but one group of experts strongly advocates the period of Ch'eng Wang (1115–1077 B.C.) of the Chou dynasty; and the location is said to be the Loyang area of Western Honan.

A few of the items have quite long inscriptions incised on them, one of the most important being that of the square Yi vessel in the Freer Gallery of Art at Washington. That inscription records matters concerning the Duke of Chou, of his son Ming-Pao, and of the King, but does not mention the name of the king. The data on this vessel are fully set forth in a publication of the Freer Gallery.[1]

From the information available, and from a direct knowledge of Loyang over a period of years, the writer is convinced that the Ch'en-Ch'en vessels came from an area in the Mang Mountains, about four miles northeast of the city of Loyang. Two villages have been frequently reported as the source of these vessels, one is Ma-p'o (Horse Cliff) and the other Miao-kou (Temple Moat)—sometimes called Ma-kou (Horse Pit). These villages or hamlets are not far apart, and the locality is well known for the numbers of bronzes that have been excavated there. As previously noted the Mang Shan set (Group V) came to light at Ma-kou. (See Map C, Appendix H.)

In January 1929, a vessel of the type called Yu, or T'i-liang-yu, was brought to us; it was said to have come from Ma-p'o. It was tall, about 14 inches high, bottle-shaped, with a cover, and a long loop handle of a pail-handle type. Unfortunately, the vessel had been broken into a score of fragments, and these had been roughly soldered together so that it was not acceptable.

The lid of the vessel, however, carried an inscription which at that time was unfamiliar to the writer, but which in time was known to be a Ch'en-Ch'en inscription. At any rate a

[1]Oriental Studies, No. 3: *Chinese Bronzes* (Freer Gallery of Art, Washington, 1946), pp. 42–46.

tracing—not a rubbing—of the inscription was taken at the time, and this is included in the list of pictographs, with the graphs of the other four objects of this group. This vessel and inscription are illustrated in a Chinese book published in Peiping in 1936.[2]

These vessels were not obtained in one lot but over a space of months, mostly in 1932, and all of them had suffered breaks which required restorations.

OBJECTS IN THE CH'EN-CH'EN SET

1 NB.4108 P'AN Large shallow laver PLATE LXXI

This vessel has a high base-rim, but no handles. It has animal decoration in three bands, of three pairs of profile dragons each, under the rim, around the body, and around the foot-rim. The inscription is inside on the centre bottom.

Ht. 4.5″; Dia. at rim 13.5″, at base 8.75″. Graph Chart VI-1

2 NB.4107 KUEI Food vessel PLATE LXXII

This has a high cylindrical foot-rim, with an intricate incised animal design. Below the mouth-rim is a decorative band with circular raised bosses carrying a five-comma design, and with a central boss on each side of the animal-mask design. On the side of the bowl there are two vertical handles of animal mask and pendent tongue. The pictograph is on the inside bottom.

Ht. 5.2″; Dia. at mouth 7.5″, at base 6″. Graph Chart VI-3

3 NB.4109 HO Wine pot PLATE LXXIII

This is shaped like a teapot and sometimes called a wine-mixer. It has three bulbous legs for quick heating of wine over a fire and a short tubular spout. Its cover was originally attached to the vessel by chain links. The single vertical handle has an animal head, and a band of scroll decoration encircles the neck. The inscription is in the interior of the lid.

Ht. 7.5″; Dia. body 5.75″. Graph Chart VI-2

4 NB.3226 TING Tripod food cauldron PLATE LXXIV

This vessel has three cylindrical legs, one of which was broken and has been restored. It has a clearly incised design with animal masks, and two upright loop handles spring from the rim. The inscription of five characters is cast on the interior of the vessel.

Ht. 9.25″; Dia. at mouth 9.75″. Graph Chart VI-4

5 (Supplementary) YU Wine pail

This vessel was brought to me in Kaifeng. It was a tall bottle-shaped wine pail, which had a cover and a slender swing handle. Although the vessel was badly broken, the inscription inside the cover was intact.

Ht. about 14″. Graph Chart VI-5

[2]Shang Ch'eng-tso: *Shih Erh Chia Chi Chin T'u Lu* (Peiping, 1936), vol. 2, Tsun 16.

6 NB.4105 Finial

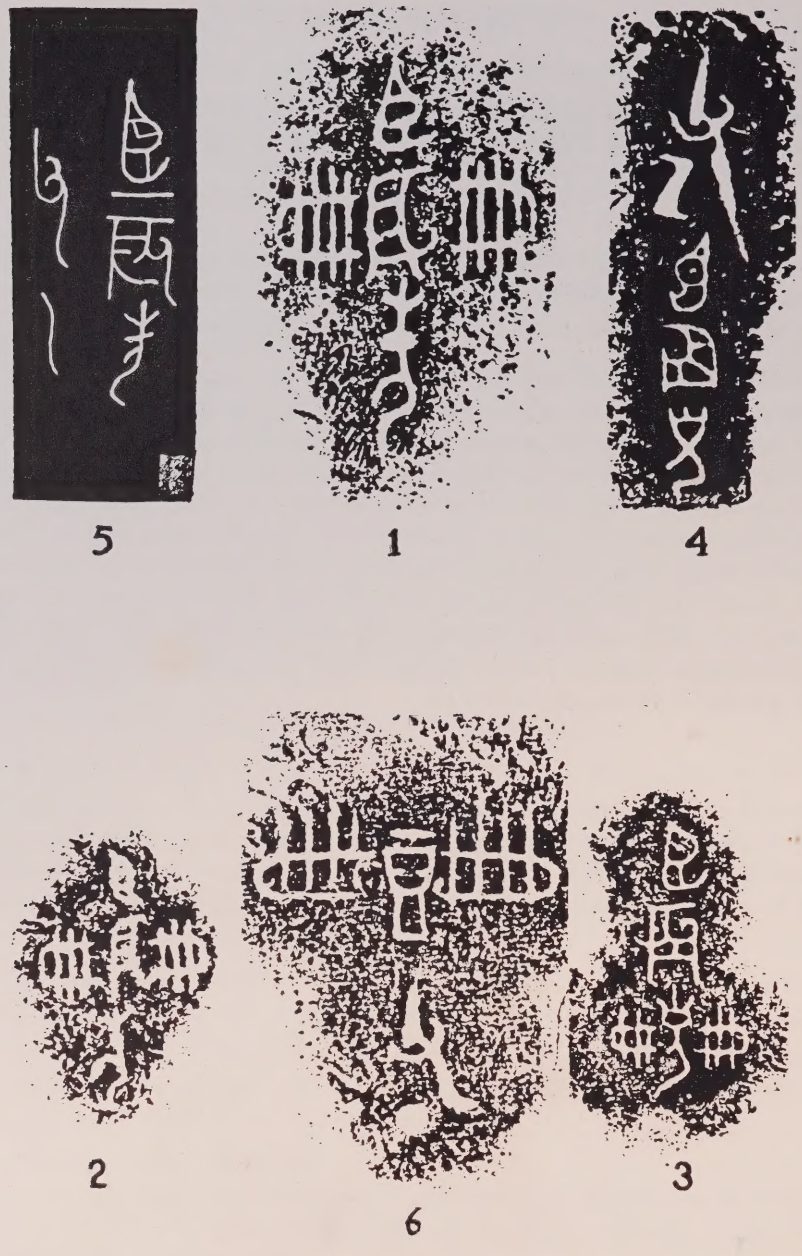
This finial which has the shape of a bird is actually a tubular socket, perforated on both sides for hafting; a large curling crest covers all the top of the head.
L. 3.15″

7 NB.4106 Finial

This object forms a pair with NB.4105 above and is similar in all respects. These two bronze finials as well as the following laver (NB.4110) were said to have come from the site of the Ma-p'o excavations, and are now in the Museum collection.

8 NB.4110 P'AN Ceremonial laver PLATE LXXV

This vessel probably did not belong to the Ch'en-Ch'en set, but is given here because of the double bamboo graph, and the fact that it came from Ma-p'o whence the Ch'en-Ch'en set came. This laver has a high foot-rim and a shallow bowl with projecting convex rim. A band of decoration encircles the foot-rim and also the body, with conventional cicadas in low relief, placed horizontally on an incised scroll background, between narrow borders of small raised rims. The design is divided in three by vertical bars on the foot-rim, and by raised animal masks on the bowl. The inscription is in the centre of the bowl inside, and is the pictograph of two bamboo books with a stylized pedestal object between them and with the characters for Fu-Ting (Father Ting) below.
Ht. 4″; Dia. 11.75″. Graph Chart VI-6



Graph Chart VI—1. P'an: NB.4108; p. 138. 2. Ho: NB.4109; p. 138. 3. Kuei: NB.4107; p. 138. 4. Ting: NB.3226; p. 138. 5. Yu (Supplementary); p. 138. 6. P'an: NB.4110; p. 139

PLATE LXXI. Laver of the P'an type (NB.4108; p. 138)

PLATE LXXII. Food vessel of the Kuei type (NB.4107; p. 138)

PLATE LXXIII. Wine pot of the Ho type (NB.4109; p. 138)

PLATE LXXIV. Food cauldron of the Ting type (NB.3226; p. 138)

PLATE LXXV. Laver of the P'an type (NB.4110; p. 139)

GROUP VII

THE PRINCE KUNG OF SUNG SET

Early Chou, *c.* 1100 B.C. Hui Hsien, Honan

DURING THE JAPANESE INVASION of China (1937–1945) no archaeological material was obtainable from China, except that which went to Japan as spoils of war, and this was, of course, not available to the West. Following the end of the Japanese war in August 1945, there was a period of great disorder which continued for some years, so that very little archaeological research was carried on. However, in 1946–47 there was a little place in Northern Honan, a sort of quiet backwater, which was untouched by the ebb and flow of civil war and ideological conflict. It was in the Hui Hsien area (lat. 35° 30′, long. 114°) at a village called Tung-shih-ho Ts'un or "Eastern Stone River Village." This is in territory that in Early Chou was the appanage of Marquis K'ang, a younger brother of Wu Wang, the first ruler of the Chou dynasty, who reigned 1122–1116 B.C. This particular area had also been an earldom of the Kung clan in the early Chou period. Tung-shih-ho village is 20 miles south of Hsün Hsien, which itself is 25 miles south of Anyang. All this country in Honan north of the Yellow River is well known for its remarkable archaeological riches and for the light it has thrown on the earlier ages of Chinese civilization. (Appendix H, Map A.)

During 1946 some very interesting early bronzes appeared in Kaifeng, and it was learned that they had been brought through the troubled area surrounding Tung-shih-ho village, and that white moulded pottery and carved ivory and bone had also appeared with the bronzes. Ink-rubbings of a piece of white pottery and of a piece of carved bone from that village were given to us (Plate LXXXIII), as well as a photograph of part of a group of bronzes and white jade animal figures (Plate LXXXII).[1] These latter objects had already been sent to Shanghai, but other vessels were forthcoming, and ultimately ten of the objects came into the possession of the Royal Ontario Museum in Toronto.

These vessels are important for five reasons:

(1) Some are of slightly different form from the known bronzes of this particular period (the beginning of the eleventh century B.C.), namely, Nos. 6, 7, and 8, of the Ho, Chüeh, and Hu types.

[1]The white jade figurines and the square Ting came into the possession of Messrs. C. T. Loo. The Ting was found to have an inscription corresponding to that on the wine beaker of the Ku Type (N.B. 6403).

(2) The cast sunken inscription on the large Ting (Nos. 1 and 1a) shows an affinity with the Shang bone script, while the inscription on the Ku (No. 2) includes both bone script and early bronze script characters. That on the Ting is the pictograph for Kung, with "son" or "prince" above it.

(3) Types of bronzes similar to Nos. 3, 4, and 10 are found in Chinese collections, though not frequently, but hitherto there has been no definite information as to provenance or period.

(4) The finding of these bronzes in this locality, and in the same excavation, together with the two inscriptions on Nos. 1 and 2, would suggest that these vessels belong to the Early Chou period—that is, in Early Chou but of Shang tradition—and date approximately from the eleventh century B.C.

(5) Although the bronzes come from the same excavation, they appear to be of three different groups. The first group comprises Nos. 1 and 2;[2] the second Nos. 3, 4, and 5, with possibly No. 10; and the third group Nos. 6, 7, 8, and 9. The patination of all the vessels is very similar, but the design and form are different. Those of the third group are most impressive in their simple dignity. The only inscriptions found are on Nos. 1 and 2 and on the supplementary square Ting of Plate LXXXII, page 157.

This Kung set of vessels was published with illustrations in the *Illustrated London News* of December 20, 1947, pp. 700–701.

OBJECTS IN THE PRINCE KUNG OF SUNG SET

1 NB.6402 TING Large tripod food cauldron PLATE LXXVI

The inscription inside the rim has the pictograph for "son," and an S-shaped dragon supported by two hands. These pictographs are found in the Shang Oracle Bone script. The former pictograph may also be translated "prince" in the sense of "heir-apparent." The second is the clan name "Kung." The whole inscription can be read as "Prince Kung." The deeper parts of the design had been filled in with a brownish paste, much of which still remains. This may be a mixture of lime and pig blood which is said to have been used in early China as an inlay similar to lacquer.

Ht. over all 18.5″; W. at ears 14″; Weight 42 lbs. Graph Chart VII-A

2 NB.6403 KU Slender wine beaker PLATE LXXVII

This slender libation vessel is of the usual three-zone type of Ku. It has an unusually long inscription inside the foot-rim, being a literary composition of twelve characters of early Chou script with an historical connotation. The first of the characters in the

[2]The square Ting also belongs to this first group, and its inscription becomes the third of the group (Plate LXXXII).

inscription (upper right) is the pictograph for "Kung" as is found on the preceding Ting vessel. This inscription, which in the graph is transcribed into modern script by the side of the original archaic script, may be translated as follows: "[Prince] Kung's Supervisor of the women received a reward of money [cowries] that the Supervisor might use for the purpose of making a Fu-yi ceremonial vessel." The "supervisor of women" can well be called "minister of the harem," for we know that when a prince married, at least eight women of the same family as the bride accompanied her to the palace. Also the use of "supervisor" or "minister" is similar to parallel uses found in the classics when speaking of "minister of instruction," "minister of war," "minister of works," and "minister of crime."

Ht. 11.2″; Dia. at top-rim 5.5″. Graph Chart VII-B

3 NB.6404 CHIA Wine container PLATE LXXVIII-A

This tripod vessel, used for the heating of wine or other liquids, is of exquisite proportion, and the deeply incised design around the bowl is very effective. It will be noticed that the legs are similar in form to those of the Ho vessel (No. 6) in this list. The knobs and upright posts of the Chia vessel have never been satisfactorily explained. Perhaps the fact that the one handle on the side of this vessel is exactly opposite the posts and in alignment with two of the feet of the vessel might suggest a function in regard to the pouring out of the heated wine.

Ht. to top of knob, 9.2″; Dia. at rim 5.5″

4 NB.6405 CHÜEH Libation cup PLATE LXXVIII-B

This tripod has a vertical handle on the right side, the usual two posts on the rim, and the two pouring spouts. The patination is of a golden brown splashed with greyish green, similar to that of the previous vessel, NB.6404.

Ht. to top of knob 9.2″; W. from spout to spout 5.7″

5 NB.6406 TING Miniature tripod bowl PLATE LXXVIII-C

This small vessel has a hemispherical bowl and two upright loop handles springing from the rim. A decorative band of spirals, with rows of small circles, surrounds the bowl below the rim.

Ht. to top of ear 3.4″; Dia. at rim 2.7″

6 NB.6407 HO Wine pot PLATE LXXIX-A

This egg-shaped vessel is unusual in form. It is a wine bucket, with three feet for placing over a charcoal fire. It has a small cover on the smaller top-most part of the vessel, which is attached to a twisted-cord style of swing handle, by a looped connector. It has a short spout. There is no decoration on this vessel, but there are traces of cloth encrustation.

Ht. to top of lid 8.3″; Ht. to top of handle 10″

7 NB.6408 CHÜEH Libation cup PLATE LXXIX-B

This small bronze libation cup is very distinctly helmet-shaped. It is a tripod, with the usual vertical handle on the side and the two spouts, but it has only one post and knob which bridges the trough-shaped spout. There is no decoration on this vessel.
Ht. to top of knob 5.8″

8 NB.6409 HU Covered wine bottle PLATE LXXX-A

This wine container has a lid with knob, but has no decoration except the three simple lines around the neck, and comma-shaped spirals on the knob of the cover. Accretions of cloth and straw woven material are spread over areas of the vessel.
Ht. over all 7″

9 NB.6410 KU Wine beaker PLATE LXXX-B

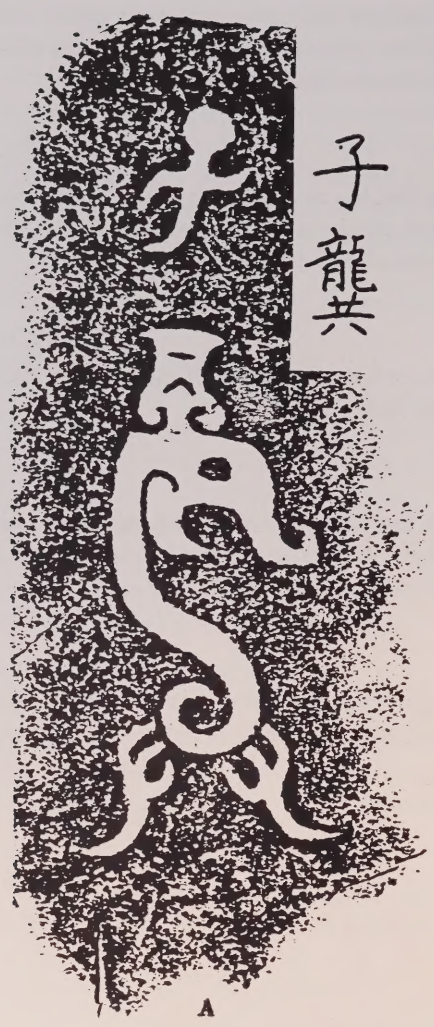
It is less slender than the usual type, but it has a semblance of the characteristic three zones. It has no decoration except simple lines.
Ht. 5.5″; Dia. at upper rim 4.2″

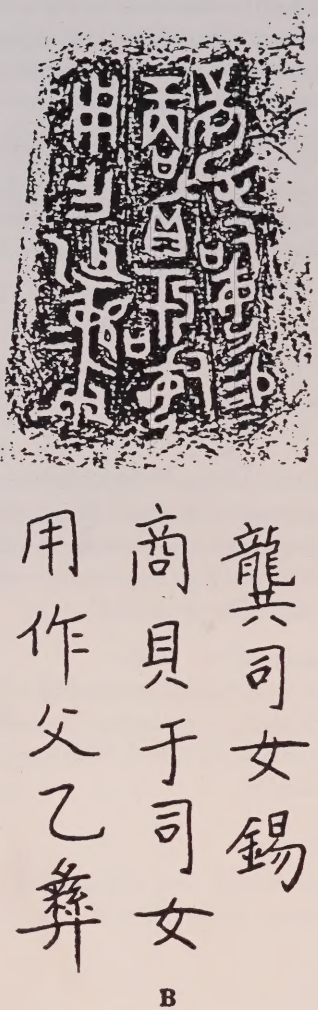
10 NB.6411 CHIA Wine container PLATE LXXXI

This vessel is of tripod form, with flat bottom, two knobs, and one vertical handle. It has a decorative band around the centre. The quality of material and workmanship of this vessel does not compare with the previous nine vessels.
Ht. 9.5″; Dia. at rim 6.2″

11 NB.6412 TOU Ladle PLATE LXXXI

This long-handled ceremonial ladle has a design of meanders and cicadas in low relief with black lacquer inlay.This ladle came with the objects grouped in the photograph reproduced on Plate LXXXII, p.157.
L. 12.5″





Graph Chart VII—A. Ting: NB.6402; p. 147. B. Ku: NB.6403; p. 147. (See also inscription from the square Ting, Plate LXXXII, p. 157)

PLATE LXXVI. Food cauldron of the Ting type (NB.6402; p. 147)

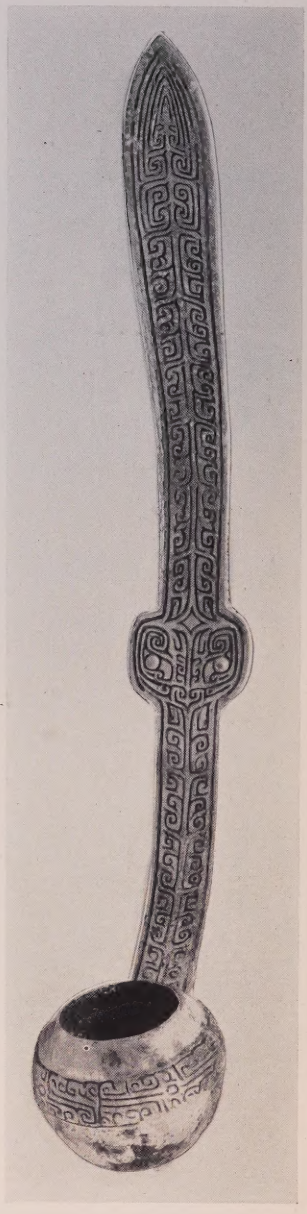
PLATE LXXVII. Wine beaker of the Ku type, with inscription (NB.6403; p. 147)

PLATE LXXVIII—A. Wine container of the Chia type (NB.6404; p. 148). B. Libation cup of the Chüeh type (NB.6405; p. 148). C. Miniature bowl of the Ting type (NB.6406; p. 148)

PLATE LXXIX—A. Wine pot of the Ho type (NB.6407; p. 148). B. Libation cup of the Chüeh type (NB.6408; p. 149)

PLATE LXXX—A. Covered wine bottle of the Hu type (NB.6409; p. 149). B. Wine beaker of the Ku type (NB.6410; p. 149)

A



B

PLATE LXXXI—A. Wine container of the Chia type (NB.6411; p. 149). B. Ladle of the Tou type (NB.6412; p. 149)

A

B

龔司女錫
商貝于司
作父乙彝

PLATE LXXXII. Group of objects from Hui Hsien, Honan (Supplementary), and inscription from the square Ting (A, pictograph; B, transcription)

PLATE LXXXIII. Ink-rubbings of pottery (A,C) and bone (B) from Hui Hsien, Honan

GROUP VIII

THE SHA-WAN SET

End of Early Chou, *c.* 900–750 B.C. Loyang, Honan

THREE MILES SOUTHEAST of the city of Loyang, Western Honan, is the village of Sha-wan (Sandy Bend), located near a bend in the Lo River. Sha-wan has the reputation of being a fruitful source of ancient bronzes, but the quality of its bronzes does not come up to the standard of excellence of those found at Ma-p'o and the area north of Loyang. The latter is a loess soil district, full of caves dug out from the loess cliffs of the Mang foothills, which have been the habitations of people from prehistoric time. Sha-wan is in the plain through which the Lo River flows, and is subject to the changes characteristic of flood-ridden land. It was probably as a result of floods in the late summer of 1926 that a small group of bronze vessels came to light at Sha-wan. At any rate the vessels were clean and somewhat free of the encrustation usual on freshly excavated ancient bronze. Their patination was a greenish grey which the Chinese speak of as a "water" patina.

There were six items, a pair of covered bowls of the Kuei type, two ewers of the Yi class, a tripod Ting, and a P'an laver. There was no inscription on any of the objects. Their decoration was mainly in their horizontal fluting and encircling bands of a chain-scale design. The vessels were of poor quality in material, form, and workmanship, and some of the objects were badly distorted through earth pressures.

Students who use the historical-political periods as bases for a chronology of early Chinese culture would consider this group of bronzes as belonging to Middle Chou, and dating from about 771 B.C., when the Chou court moved from the Western capital of Feng to set up the new national capital of the Middle Kingdom at Loyang. This assumption is based somewhat on the sequence of the archaic script inscribed on the bronzes, but more particularly on the great changes in the types of the ceremonial bronzes and their form and décor. On the other hand other students who determine periods of early Chinese culture from the standpoint of art hold the opinion that Middle Chou should begin about 950 B.C. and extend to 771 B.C., but with the style running on to about 600 B.C. Since this is simply an archaeological study, with no attempt to deal with early Chinese art, the writer is content to consider the date of Group VIII as possibly the end of Early Chou, about 900–750 B.C.

The bronzes of this group, and of many others of similar form in the Museum collection,

show important differences from the Shang and Early Chou bronzes. The two Kuei bowls of this group have covers, and instead of a foot-rim only, there are rudimentary feet, which are not characteristic of the earlier bronzes. The fluting around the vessels is a new feature, and the bands of chain-scale décor are a new use of the scale symbol that is found on the zoomorphic designs of earlier date. The bulbous hollow legs of Shang and Early Chou have a functional use—the quick heating of liquid contents—but the bulbous legs of this later type are as a rule not hollow, but often merely half-legs with the clay cores bare and quite exposed. It may be said that these are Ming-ch'i funeral vessels; but the fact is that among the earlier vessels, few if any are of this type: in general they all seem to be of good quality, evidently intended for continuous use.

It would appear that many types of ceremonial vessels suddenly dropped out of sight and new vessels with other names came into use, such as the Fu, the Hsi, the Chou, the Chien, the Chiao, the Lu, the Lien, and many other types. Is it possible that changes in ceremonial practice account for this? If so, something drastic and revolutionary must have taken place to change so quickly what had been the custom for centuries. By the time of Middle Chou, had the Oracle Bone practices ceased to exist and the carved bone and the carved white pottery come to an end? Is it disuse of Shang ceremonies which accounts for dearth of Ku and Chüeh and Yu and Chia vessels? Scientific excavation of ancient sites and intensive search in ancient literature may in time shed light on these questions. It would be safe to surmise, however, that the intellectual, social, and political forces which established a remarkable feudal system in Western Chou would be quite sufficient to account for revolutionary changes in religious and social practices.

OBJECTS IN THE SHA-WAN SET

1 NB.2621 TING Food cauldron PLATE LXXXIV-A

This vessel is hemispherical in shape, with three legs of horse-hoof form such as are common to Middle and Eastern Chou. Two vertical ears spring from the mouth-rim, and a band with chain-scale decoration encircles the bowl just below the rim. Three lines on the bottom form a triangle from leg to leg.
Ht. 9″; W. at rim 10″

2 NB.2624 P'AN Shallow laver PLATE LXXXV-A

Laver of plate-like form attached to an extended foot-rim. Five lines, somewhat uneven, criss-cross along the bottom. Two loop handles spring from the side. It is decorated with two bands of chain-scale design, one encircling the bowl, the other on the foot-rim.
Ht. 3″; W. at rim 11.25″

3 NB.2622 KUEI Covered food bowl PLATE LXXXIV-B

The bowl has an extended base-rim, with three very primitive feet attached, and two vertical loop handles on the sides, with animal-head decoration. It is concave, fluted horizontally, and has a band of chain-scale design. The cover has a cup-like knob at the top which forms a base when it is inverted and used as a container. Much distorted by earth crushing.

Ht. over all 7.5″; W. at rim 5.6″

4 NB.2623 KUEI Covered food bowl PLATE LXXXIV-C

Similar to and forms a pair with NB.2622 above. Ht. to top of cover 7.5″; W. 5.6″

5 NB.2620 YI Ewer PLATE LXXXV-B

This ewer is of sauce-boat shape with an animal-head handle at one end and spout of trough-like shape at the other end. What it was used for we do not know, but it might have been for libations of wine or water. There are parallel concave flutings around the bowl of the vessel, and under the rim is a band of incised (cast) chain-scale design similar to that on the Ting above (NB.2621).

Ht. 5″; W. 4″; L. 9″

6 NB.2625 YI Ewer PLATE LXXXV-C

Similar to the ewer above (NB.2620), but it is smaller, and does not have the band of chain scale around the rim. Both this vessel and NB.2620 have four rather crude animal legs.

Ht. 2.75″; W. 3.2″; L. 5.25″

PLATE LXXXIV—A. Food cauldron of the Ting type (NB.2621; p. 160). B,C. Pair of covered food vessels of the Kuei type (NB.2622,2623; p. 161)

PLATE LXXXV—A. Laver of the P'an type (NB 2624; p. 160). B,C. Ewers of the Yi type (NB.2620,2625; p. 161)

GROUP IX

THE MARQUIS K'ANG OF WEI SET

Early Chou. Ch'eng Wang Period, 1115–1077 B.C. Hsün Hsien, Honan

IN THE SPRING of 1931 ancient objects were excavated at Hsin Ts'un, a village near the railway station of Hsün Hsien. At once dealers from the port cities swarmed to the area, paying exorbitant prices for anything they could lay their hands on, and many objects were distributed throughout the countryside. The government then authorized competent scholars to undertake scientific excavation, which they began in the late summer of 1931. As a result, a large quantity of valuable material has been discovered, not all of which has yet been fully recorded and interpreted. Some of the objects carried the character for "marquis" (Hou), and it is generally accepted that they were of the period of Ch'eng Wang (1115–1077 B.C.). The "marquis" of the pictographs would probably be Marquis K'ang, an uncle of King Ch'eng, whose domain of Wei-hui included Hsün Hsien as well as Hui Hsien.

The Royal Ontario Museum from time to time acquired bronze objects said to have come from the Hsün Hsien excavations,[1] and the following have been selected as being most probably correct as to period and provenance. (See Appendix H, Map A.)

OBJECTS IN THE MARQUIS K'ANG OF WEI SET

1 NB.3153 K'UEI Helmet PLATE LXXXVI

Many of these were found, not only in this area but at Anyang in connection with the Royal Tombs. There is a gash on one side of this helmet, which may have been caused by a blow from a socketed dagger-axe, but more likely by the pickaxe of an excavator. There is no decoration on the helmet, except a stout ring immovable at the top, which from ancient pictographs we may assume was used to carry a crest.

Ht. 7.9″; W. 7″

[1]In addition to the bronze items there have come from the Hsün Hsien excavations many cowries, mussel shell sections of animal masks, and carved bone fragments. See White: *Bone Culture of Ancient China* (University of Toronto Press, 1945), Plate LXXX and pp. 208–229.

2 NB.6420 TAO-KO Knife-halberd PLATE LXXXVII-A

This knife-halberd is hooked at the top, and has slits parallel with the blade for lashing to a shaft.

L. 13″; Max. W. 4.75″

3 NB.6421 TAO-KO Knife-halberd PLATE LXXXVII-B

Similar to NB.6420, but it has slight differences of shape. The knife-halberd is characteristic among Hsün Hsien weapons, and does not appear to have been used in Shang times.

L. 13.5″; Max. W. 5.25″

4 NB.6447-A, B, C Three strap terminals PLATE LXXXIX

Each has a tongue. One has incised on it the pictograph of "cart," and the other two the character for "cease," but in this case it is probably a name character.

Approximately 2″×2.5″

5 NB.6449-A, B, C, D Four angle brackets PLATE LXXXVIII

These are heavy well-made objects, each with a sacrificial animal head in high relief.

L. 5.5″; W. 4″; sq. socketed ends .75″

6 NB.3261 CH'I Halberd PLATES XCA-1, XCB-1

This weapon is made of thin metal, and formed on graceful lines, with a dagger-axe blade on the side, and a hooked knife blade at the top end. It has no inscription.

L. 8.2″; W. 7.4″

7 NB.3154 CH'I Halberd PLATES XCA-2, XCB-2

This halberd has two blades, one a lancehead type, the other a dagger-axe, hafted vertically along the staff. A pictograph incised on the butt probably means "family" or "house."

L. 8.9″; W. 7″

8 NB.3155 CH'I Halberd PLATES XCA-3, XCB-3

This halberd carries two blades which are similar to those of NB.3154 above, but the tips of both blades are broken off. A pictograph incised on the butt, is of Hou or "marquis."

L. (restored) 10.5″; W. 6.7″

PLATE LXXXVI. Helmet (K'uei) (NB.3153; p. 164)

PLATE LXXXVII. Knife-halberds (Tao-Ko) (NB.6420.6421; p. 165)

PLATE LXXXVIII. Angle bracket (NB.6449; p. 165)

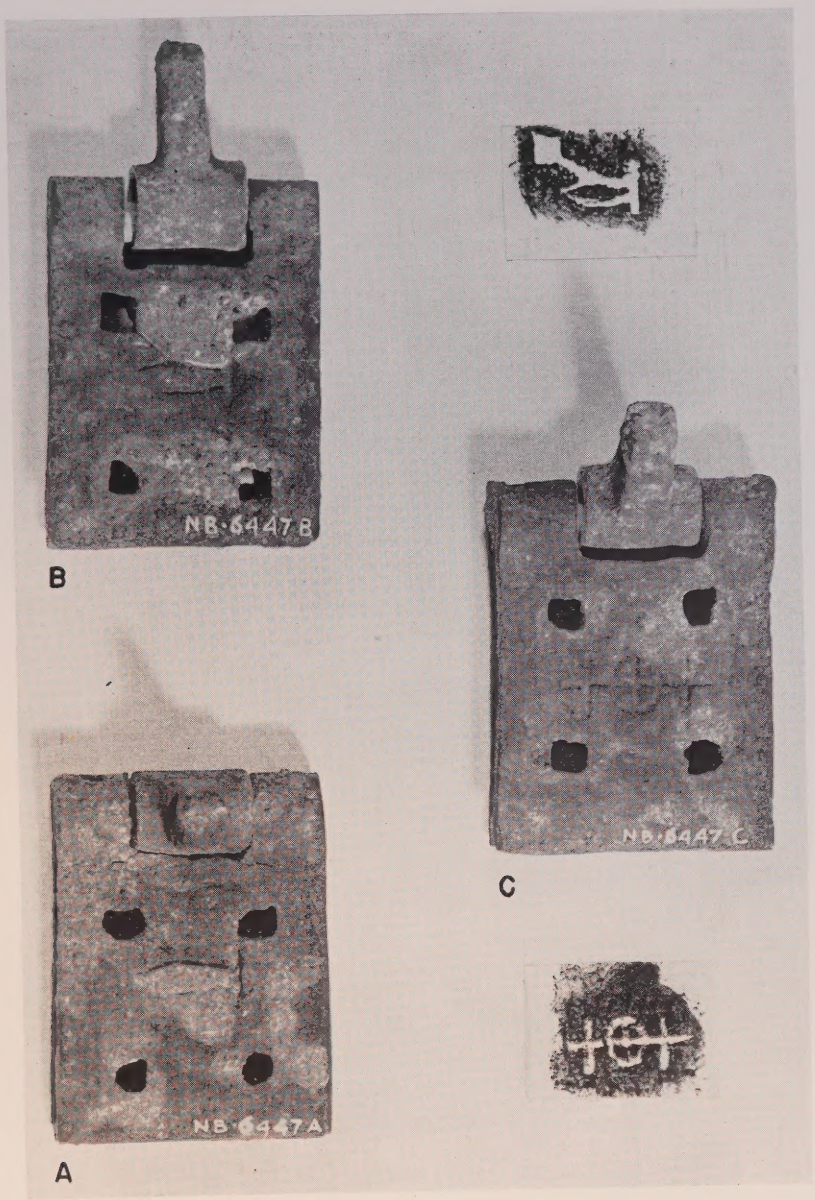


PLATE LXXXIX. Strap terminals, with pictographs (NB.6447; p. 165)

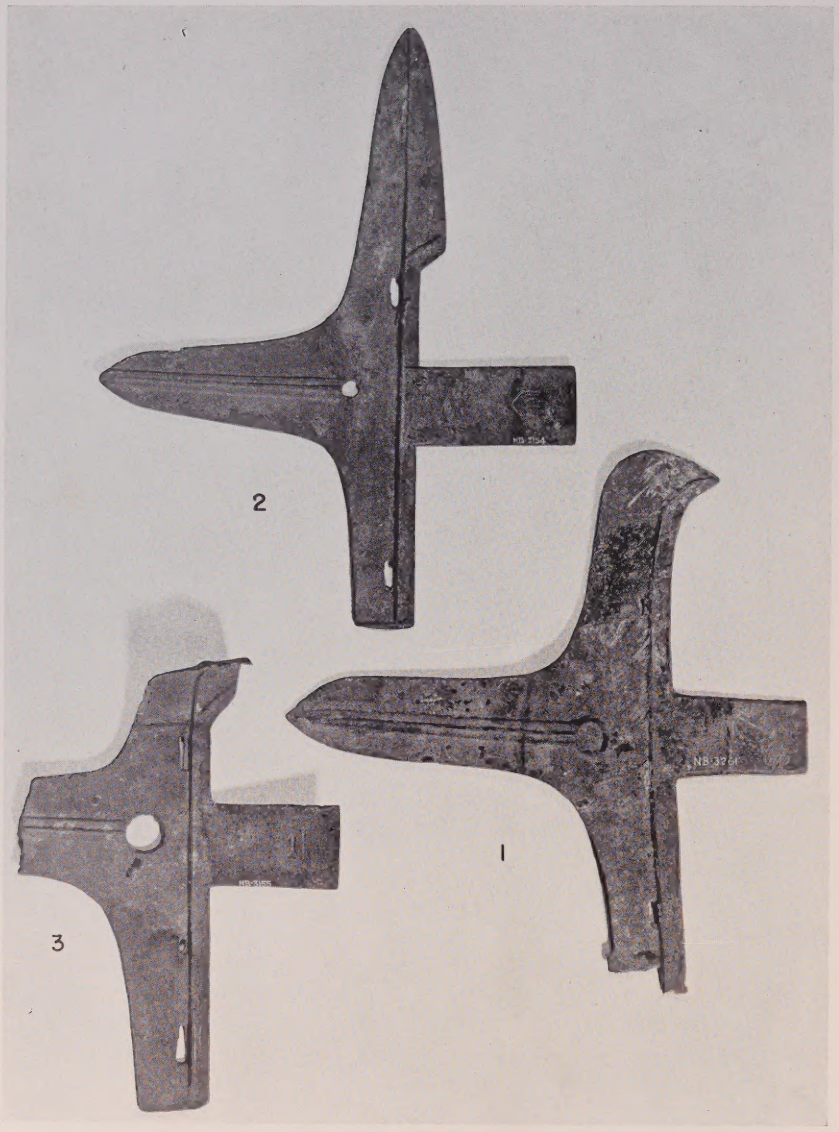


PLATE XCA. Halberds of the Ch'i type (NB.3261,3154,3155; p. 165)

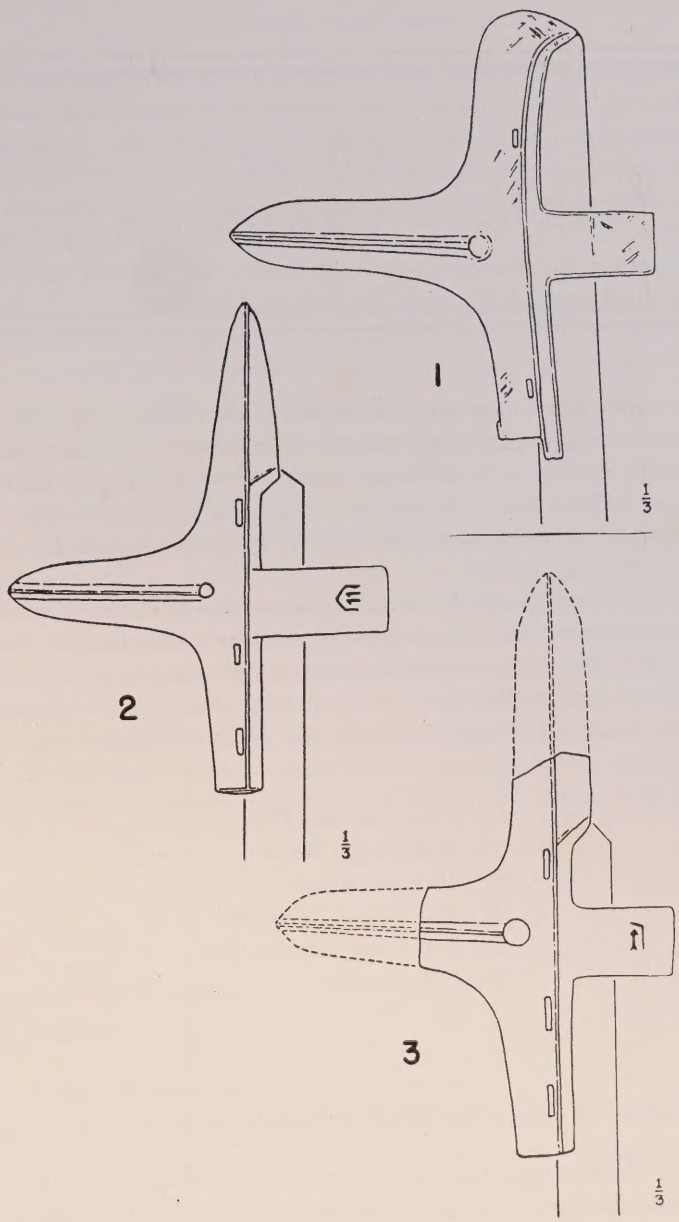


PLATE XCB. Line-drawings of halberds on Plate XCA (restored)

GROUP X

VARIOUS SMALL UNITS

MUCH OF THE INFORMATION concerning the bronzes in the Chinese Collection of the Royal Ontario Museum was acquired through residence in the province of Honan over a long period of time, and with the help of loyal Chinese friends. These friends were natives of Honan, who came from different parts of the province. The leader who co-ordinated their activities was an ardent Buddhist, whose family had been in the antique business for generations; he died during the Japanese invasion.

In addition to the nine groups of ceremonial objects already discussed, which in point of time range probably from about 1400 to 770 B.C., there are in the Museum collection a number of smaller units of from two to six or more objects also belonging to that early period, and a few of them are listed below. They too come from Honan, from Anyang, Hui Hsien, including Hsün Hsien, and Loyang. The small units which are included in this group are as follows:

(A) Three Inscribed Bells
(B) Four Simple Vessels
(C) Mengtsin Vessels
(D) The Two-Colander Set
(E) Beaker and Libation Cup
(F) A Pewter Set

(A) THREE INSCRIBED BELLS NB.6413-1, 2, 3 PLATE XCI

THESE BELLS are of the Nao type. They are socketed for wooden handles, and have no clapper, but are held in the one hand, with the mouth upward, and beaten by a knocker held in the other hand. Each of these bells carries a pictograph of a bird facing right, surmounted by a dagger-axe. This pictograph is carried by an important bronze of the Yu type now in the Freer Gallery of Art.[1]

[1]Oriental Studies, No. 3: *Chinese Bronzes* (Freer Gallery of Art, Washington, 1946), p. 37.

These bells were probably part of a set graded from small to large to produce a scale of notes. Sets of this kind dating from the Eastern Chou period (771–255 B.C.) are not uncommon, but these three are the only known graded bells from Shang times, except possibly the small Ling bells, of which there are many of various sizes in the Toronto collection. The difference between the size of the largest of these three bells and the two smaller would seem to require two bells of intermediate size to bridge the gap.[2]

These bells came direct to the writer from Anyang when he was resident at Kaifeng in December 1946. With them came also some grey pottery, including a bird's-head fragment of a vessel and a moulded clay figure of a water-buffalo about seven inches long. There were also a few pieces of jade, and a dagger-axe with the Tzu ("son" or "prince") character on it. L. 7.25″ (1), 5.75″ (2), 5″ (3)

(B) FOUR SIMPLE VESSELS NB.3238–3241 PLATE XCII

THESE FOUR SMALL VESSELS came from Anyang and are of the Shang period. They are unusually small for group vessels, and are crude in quality of bronze, in form, and in workmanship. They do indicate, however, that the poor and humble, as well as the wealthy and powerful, observed the ceremonies and offered the sacrifices. It has been suggested by some Westerners that Shang culture as we know it was confined to a very small stratum at the top of Shang society, and that the common people were kept in ignorance of the ceremonies and their meaning. This is not borne out by the evidence of these vessels. There are no inscriptions on them.

1 NB.3238 TSUN Wine beaker
Ht. 6.9″; Dia. 4.4″

2 NB.3239 CHIH Wine beaker
Ht. 4.4″; Dia. 2.6″

3 NB.3240 CHÜEH Libation cup
The legs are unusually short, and the bowl of the cup long. It has a small handle on the right side, the usual two spouts, and two small rough posts, without the usual caps.
Ht. 5.1″

4 NB.3241 CHÜEH Libation cup
This is almost identical with the latter vessel. Ht. 5.2″

[2]White: *Tombs of Old Loyang* (Shanghai, 1934), Sec. VI, pp. 161–166.

(C) MENGTSIN VESSELS NB.2628, 2629 PLATES XCIII, XCIV

MENGTSIN is a county directly north of Loyang county, through which the Yellow River flows west to east. The county town, Mengtsin Hsien, is situated close to the Yellow River on its south bank, and is about twenty miles due northeast from the city of Loyang. The main road between these two cities passes through ravines of loess soil not far from Ma-p'o and Miao-kou, the region whence came the bronzes of Groups V and VI. The Royal Ontario Museum has several objects from Mengtsin dating from the Early Chou period, but only two are recorded here to show the great similarity between these vessels and those of Mang Shan.

1 NB.2628 YU Wine pail PLATE XCIII

The pail has a swing handle, with an animal head in full round at each terminal. The vessel is elliptical, and the close-fitting cover has a spur extension at each small end, with a cup-like knob at the top, which forms a base-rim when the cover is inverted and used as a receptacle. There is a simple line decoration in relief around the lid, the neck of the bowl, and the base-rim. An inscription of five pictographs, similar to that on the Tsun that follows, is incised (cast) on the inside of the cover, and on the inside bottom of the vessel. This inscription indicates that "the descendants [of the Ancestor] made this ceremonial vessel."

Ht. to cover top 7.25″

2 NB.2629 TSUN Wine beaker PLATE XCIV

There is no decoration except simple lines in relief around the vessel. An inscription exactly like that of the latter vessel is incised at the bottom inside.

Ht. 8″; Dia. at mouth 7.25″

(D) THE TWO-COLANDER SET NB.3202, 3175, 3176 PLATE XCV

THIS IS a poor man's set, or part of a set, for there must have been several other types of vessels in the complete group. These vessels all have a chain-scale band of decoration around the upper part of the objects. The encrustation on all of them contains a sprinkling of mica flakes, which is significant because layers of mica are known to have been found in a tomb site at Chin Ts'un in the Loyang area whence these vessels came.

The most interesting thing about this group is that there were two colanders, both bearing the same decoration and obviously of the same set, one of which was a four-legged rectangular vessel and the other a circular tripod. The rectangular one still retained its movable grill inside, though two corners had been damaged, and the wonder is that the broken plate had not been thrown away. These vessels came from the Loyang area, and from their form

and décor could be placed not earlier than 772 B.C. (end of Early Chou). The vessels bear no inscription and are crude in every way.

1 NB.3202 HSIEN Rectangular colander

This vessel has a movable rectangular grill. Two loop ears are attached to the upper rim and the legs are bulbous in shape, but not hollow; remains of the clay core are still in place.
Ht. 8.6″; W. 5.9″; L. 7.8″

2 NB.3175 P'AN Laver

This shallow vessel has a high foot-rim and two loop ears from the upper side of the bowl. It has a band of chain-scale pattern encircling the vessel.
Ht. 2.5″; Dia. 11″

3 NB.3176 HSIEN Tripod colander

Two loop ears spring from the upper rim and a decorative band encircles it. Bulbous legs still retain clay core in part.
Ht. 8.6″; Dia. 9.25″

(E) BEAKER AND LIBATION CUP NB.2598, 2596 PLATE XCVI

THIS BRONZE BEAKER of Tsun type and libation cup of Chüeh type came from the same excavation, but with no information about associated material. They date from the Early Chou period. The libation cup is remarkably like those of the Mang Shan set (Group V) and the locale would seem to be the same.

1 NB.2598 TSUN Wine beaker

It has three zones. Of these the upper mouth and the lower foot-rim are free of decoration, except for the parallel lines dividing the zones, whereas the central zone is full of animal stylizations in high relief.
Ht. 10″; Dia. at mouth 8″

2 NB.2596 CHÜEH Libation cup

The cup is well preserved and free of encrustation, with a glossy gun-metal surface. It carries an inscription under the handle.
Ht. 9″

(F) A PEWTER SET PLATES XCVII-C

PEWTER CEREMONIAL VESSELS of ancient China are not common, so that the discovery of a group of pewter vessels similar to bronze vessels of that period, seems worth recording as an

interesting parallel, even though the vessels were not obtained by the Royal Ontario Museum, and their present whereabouts are unknown.

In December 1936 the Yamanaka Company of New York showed the writer a group of ten pewter vessels recently arrived from China, and furnished him with photographs of the vessels, that he might publish them when a suitable opportunity should occur. He was informed that their Chinese purchasers had obtained them in Cheng Chou, Honan, which means that in all probability their provenance was the Loyang area in Western Honan. Antiques from Western Honan invariably came to Cheng Chou, a busy junction city for the Kin-han and Lung-hai railways, where the buyers for the trade in antiques did much of their marketing, and from there the objects would be taken north to Peking, east to Shanghai, and in more limited quantities south to Hankow.

It was learned that a Hsien or colander was among the vessels but it was not clear where it had gone. One of the set, a Chüeh or libation cup, was obtained by the William Rockhill Nelson Gallery of Art, Kansas City, and by kind permission that vessel in included in this record.

From the shapes it would appear that the vessels are from two sets, and there must have been many more items in the original sets than these few. The vessels were in poor condition and much distorted, so that only traces of decoration were apparent; and no inscriptions were found on them except possibly on the Kansas City Chüeh, which seems to have the pictograph Fu-Ting (Father Ting) under the handle. The height of that vessel is 8.5″ and its length 6.75″. The most likely date for the group is Early Chou.

In part this group has been published (1953) in a Japanese journal,[1] but as far as is known no publication in English has yet been made. In this list no attempt will be made to describe the vessels, but only to give the type names of each object.

1 Yu—Pail with swing handle, Pl. XCVII
2 Yu—Pail with swing handle, Pl. XCVII
3 Tsun—Large wine container, Pl. XCVIII
4 Tsun—Large wine container, Pl. XCVIII
5 Chia—Wine heater with bulbous legs, Pl. XCVIII
6 Kuei—Food container, Pl. XCVII
7 Ku—Slender wine container, Pl. XCIX
8 Chüeh—Tripod libation cup, Pl. XCIX
9 Chüeh—Tripod libation cup, Pl. XCIX
10 Chüeh—Tripod libation cup, Pl. C

It is worth noting that the pewter Kuei of Plate XCVII is almost identical with the bronze Kuei of Plate LVI in form and size; and also that each of two Chüeh of the pewter set has a different style of cap to the upright posts, and this is paralleled in the bronze set of Group IV by two pairs of these cups with the different caps. (Cf. Plate LIV.)

[1] "Studies on the Anyang Bronze Culture." *Journal of Oriental Studies* (Kyoto), No. 23, March 1953.

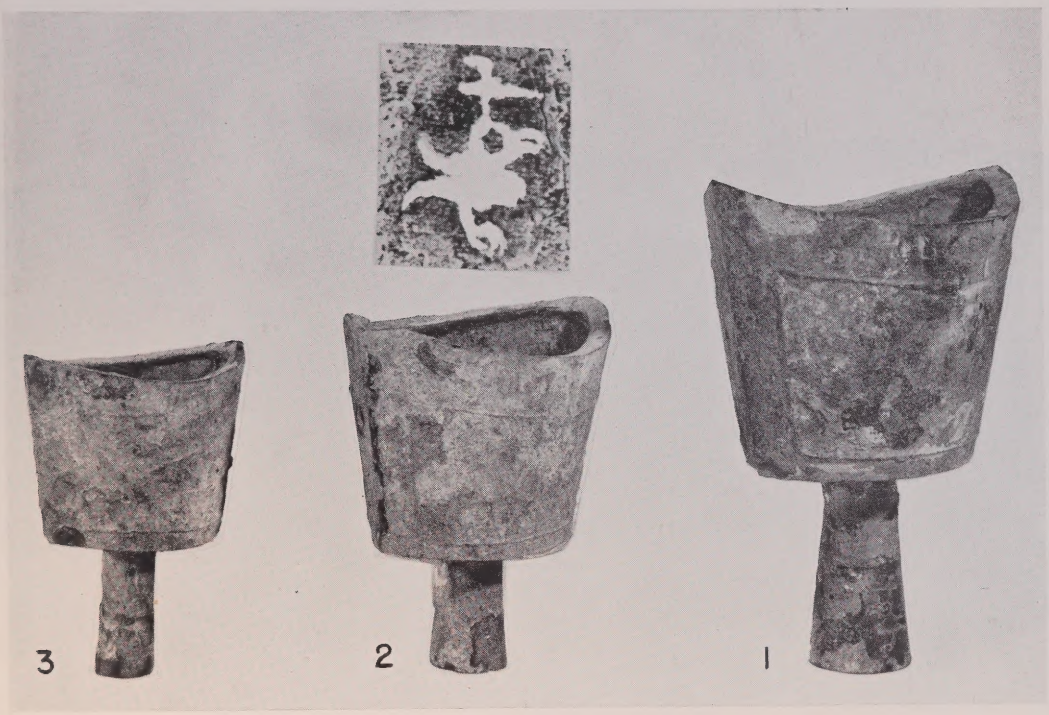


PLATE XCI. Three inscribed bells of the Nao type (NB.6413; p. 172)

PLATE XCII. Four simple vessels (NB.3238–3241; p. 173)

PLATE XCIII. Wine pail of the Yu type (NB.2628; p. 174)

PLATE XCIV. Wine beaker of the Tsun type, with inscription (NB.2629; p. 174)

PLATE XCV. Two-colander set (NB.3202,3175,3176; pp. 174, 175)

PLATE XCVI. Bronze beaker and libation cup (NB.2598,2596; p. 175)

PLATE XCVII. Pewter set. Two wine pails of the Yu type and a food container of the Kuei type (see pp. 175, 176)

PLATE XCVIII. Pewter set. Two beakers of the Tsun type and a wine container of the Chia type

PLATE XCIX. Pewter set. A wine beaker of the Ku type and two libation cups of the Chüeh type

PLATE C. Pewter set. Libation cup of the Chüeh type

APPENDIXES

APPENDIX A

CHRONOLOGICAL LIST OF SHANG KINGS

THE NAMES of the rulers of the Shang dynasty, and their line of succession as given by Mr. Wang Kuo-wei, with approximate dates of accession, are as follows:

SHANG ONE (*c.* 1766 to *c.* 1400 B.C.)

GENERATION	NUMBER	NAME	RELATIONSHIP	APPROXIMATE DATES
I	1	Ta-I (T'ang)	Founder	1766
II	2	Ta-Ting	Son of 1	
II	3	Wai-Ping	Son of 1	
II	4	Chung-Jen	Son of 1	
III	5	Ta-Chia	Son of 2	1753
IV	6	Wu-Ting	Son of 5	1720
IV	7	Ta-Keng	Son of 5	1691
V	8	Hsiao-Chia	Son of 7	1666
V	9	Yung-Chi	Son of 7	1649
V	10	Ta-Wu	Son of 7	1637
VI	11	Chung-Ting	Son of 10	1562
VI	12	Wai-Jen	Son of 10	1549
VI	13	Ho-Tan-Chia	Son of 10	1534
VII	14	Tsu-I	Son of 13	1525
VIII	15	Tsu-Hsin	Son of 14	1506
VIII	16	Wu-Chia	Son of 14	1490
IX	17	Tsu-Ting	Son of 15	1465
IX	18	Nan-Keng	Son of 16	1433
X	19	Yang-Chia	Son of 17	1408
X	20	P'AN-KENG	Son of 17	1401

SHANG TWO (*c.* 1400 to *c.* 1122 B.C.)

X	20	P'AN-KENG	Son of 17	
X	21	Hsiao-Hsin	Son of 17	1373
X	22	Hsiao-I	Son of 17	1352
XI	23	Wu-Ting	Son of 22	1324
XII	24	Tsu-Keng	Son of 23	1265
XII	25	Tsu-Chia	Son of 23	1258
XIII	26	Lin-Hsin	Son of 25	
XIII	27	Keng-Ting	Son of 25	1219
XIV	28	Wu-I	Son of 27	1198
XV	29	Ta-Ting	Son of 28	1194
XVI	30	Ti-I	Son of 29	1191
XVII	31	Ti-Hsin	Son of 30	1154–1122

Of the above names all are found on the inscribed bones, except possibly No. 26, and the last two, Ti-I and Ti-Hsin, or the other name the latter is known by, Chou-Hsin.

APPENDIX B

LIST OF NAMES OF EARLY CHINESE BRONZE CEREMONIAL VESSELS

THE GENERAL FORMS of the bronze vessels may be listed as follows:

(1) CHIA This wine container is usually of tripod form, with one side handle and two capped posts rising from the rim. It has features connecting it with the Chüeh libation cup, but is larger, and has no pouring spout. It was used to warm liquids over a fire.

(2) CHIH A small graceful wine vessel, sometimes tall and slender, and sometimes short and ovoid. It may carry a cover, though this is unusual, and may have vertical tube "ears" on the sides. These ears may possibly be vestigial remains of tubes through which the thongs of a swing handle could be threaded.

(3) CHIOH This is similar in form to the Chüeh, but its two pointed spouts are usually symmetrical, and it has no capped posts on its rim, while it sometimes carries a cover of zoomorphic design.

(4) CHÜEH A ceremonial libation cup of a peculiar helmet shape, said to have been derived from the form of a bird. It was usually a tripod, with a handle on one side, and two capped posts rising from the rim. Variations are a flat-bottomed form and a square four-legged type. It was placed over a charcoal fire to heat wine. It has two pouring spouts, one trough-like, the other flat and pointed.

(5) HO (or HUO) A mixer, with a cover and handle and spout. As the Chinese name implies, it was probably used for ceremonial mixing of wine and water, or various kinds of spirits used in the sacrifices. It usually had bulbous hollow legs, and so was used over a fire, and it is found with three and sometimes four legs.

(6) HU This is a very general name which is applied to bottle-shaped vessels with smaller mouths.

(7) KU A wine container of slender beaker shape, similar to the beaker-shaped Tsun but smaller and with a wider trumpet-shaped mouth. It may have been used for ceremonial libations.

(8) KUANG This is also a mixer, but shaped like a ewer and with zoomorphic cover. The body of this vessel is usually covered with animal designs. A ladle was sometimes used with it, although it was itself a pouring vessel.

(9) KUEI (or TUI, or CHIU) A squat-shaped bowl, with foot-rim and with or without vertical side handles. It probably contained cereal offerings. In Shang times it does not seem to have carried a lid, but by Middle Chou a lid was common. Sometimes it stood on a square base.

(10) LEI (or HU) A liquid container, which is usually of large size but is sometimes small, and may be equipped with a close-fitting lid. It may or may not have ears, and there is wide variation in its forms.

(11) LI A tripod with bulbous legs for quick heating of liquids, with or without ears.

(12) LU A shallow flat-bottomed circular vessel, with low feet of zoomorphic form and usually equipped with carrying chains. It is sometimes spoken of as a food vessel, but since many examples are quite large, twenty or more inches in diameter, it may possibly be a charcoal brazier on which certain of the wine vessels would stand.

(13) MIN This is a more or less general name, used to include a wide range of shapes, particularly squat wide-bodied vessels with rather small mouths.

(14) P'AN A wide, shallow laver pan with prominent foot-rim, either with or without loop handles. It was probably used for ceremonial ablutions, or possibly as a food platter.

(15) P'ING This name, although used in a general way to designate any bottle-shaped vessel, properly belongs to Late Chou and Han, but is now coming into use for all periods.

(16) P'OU A small-mouthed wide-bodied vessel, which may have been used to contain pickles or liquids. It is sometimes similar to the Lei in shape, with or without cover and ears.

(17) TING These were either hemispherical bowls with three legs or square vessels with four legs, and the legs are tall and not bulbous. They were used over a fire, and may have been used to cook small animal offerings, such as hare or fowl. Skeletal remains of small animals have been found in these vessels. A type sometimes called the Wen-Wang Ting had graceful animal-form legs, and the design on the body was usually inlaid with black lacquer.

(18) TOU A pedestal-stemmed platter or bowl, sometimes fitted with a cover and probably used for food offerings.

(19) TSUN A wine container of beaker shape, with a foot-rim. It was not used for heating wine. The name is also a general term for ceremonial wine vessels, and is usually applied to types ranging outside the specific groups. Zoomorphic forms, with covers, are also included in this group.

(20) YEN (or HSIEN) This steamer may be of two parts, the lower half for the water to be boiled, and the upper colander half for the material to be steamed. It may also be of one piece, with a perforated grill separating the upper from the lower half. It may be either three-legged or four-legged, and the legs are usually bulbous in form. One of the Yen in the Royal Ontario Museum had lumps of copper-corroded millet grain in the vessel.

(21) YI (or I) A ewer of sauce-boat shape, probably for pouring water of wine. This

vessel appears first at the end of Early Chou. Its prototype was probably the Kuang ewer.

(22) YI (or I) This name includes a variety of shapes and seems to be a convenient term to cover ceremonial vessels in general. A square box-like vessel with gabled cover is one of the important unnamed forms usually included under this name. The Yi of this group should not be confused with the ewer-shaped Yi, the Chinese character for which is different.

(23) YU A bucket-shaped wine container, with pail swing handle, and carrying a close-fitting lid. This vessel is usually inscribed, the inscription being in the lid and in the centre of the inside bottom. It is said to have been used to hold millet wine.

Later in the Chou dynasty other vessels came into use, such as the elliptical covered Kuei or Hsü, as well as the Fu, the Chien, the Yi type of ewer, the Lien, the Hsi, the Chiao-t'ou, and the Po-shan Lu.

(24) BELLS There are several kinds of bells in Shang and early Chou of which the following are the more common types:

(*a*) LING A small elliptical bell, usually without clapper, but sometimes furnished with a clapper which moves freely along a horizontal bar placed lengthwise at the top of the inside of the bell. Some of the clapperless bells are quite small and delicate, and have been found in bunches of a score or more, suggesting the possibility that they were sounded by the wind jostling them together. This method was used in China in the later centuries with light bells hanging from the pinnacles of the turned-up eaves of pagodas.

(*b*) CHUNG This is a heavier type of elliptical bell more common in Later Chou. These bells had no clappers, but were struck from the outside, and were graded in sets from small to large. The ordinary Chung bell so far has not been confirmed as of Shang, but cannot be ruled out, as isolated bells of simple type, without décor, and with flanges along the two small ends, have been found with a strong suggestion of Shang derivation.

(*c*) NAO A bell with a socketed handle held up with the mouth of the bell above; the bell is beaten on the lip where the metal is purposely thicker. These bells are graded from small to large, as may be seen by the three in Group X with the bird and Ko graph.

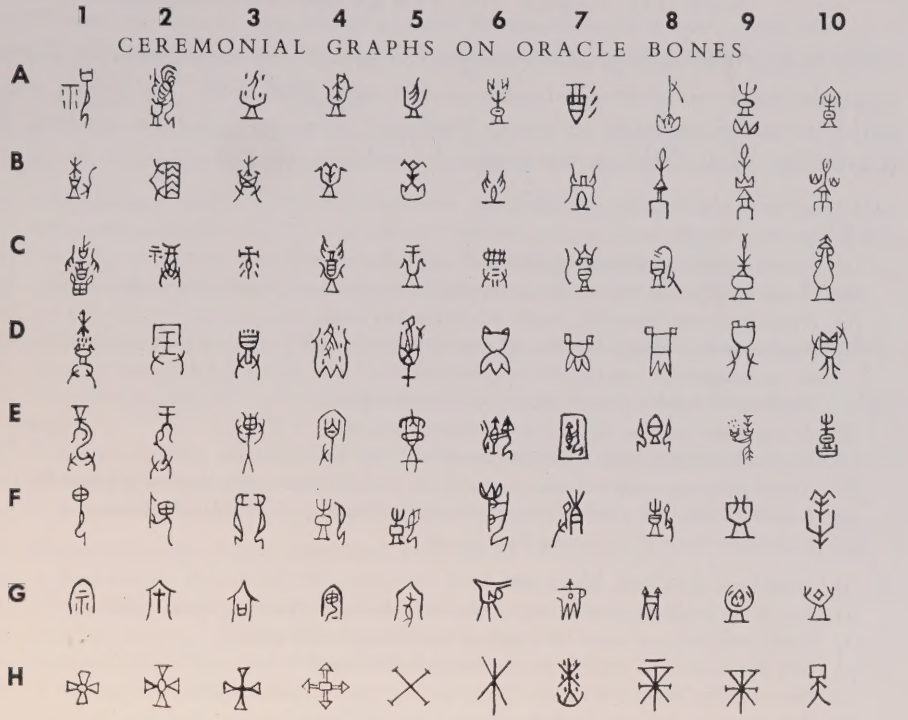
The Ch'eng is similar to the Nao in form, but with more decorative designs. The To is later but similar and usually has a long bronze handle, which is not socketed for a wooden handle.

(*d*) CH'ING So far no bronze sounding plaques have come to light in Shang, but they need not be ruled out, for stone Ch'ing (sonorous stones) have come from Anyang excavations.

APPENDIX C

CEREMONIAL GRAPHS ON ORACLE BONES, AND KEY

CEREMONIAL GRAPHS ON ORACLE BONES



MODERN CHINESE SCRIPT DEVELOPMENTS

	1	2	3	4	5	6	7	8	9	10
A	祝	沫	浴	盡	盥	豐	酒	隶	嬉	宣
B	樹	謝	糞	盖	羔		灶			赫
C	召	福	祿	盧	盂			敲		壺
D	烝	巫	彝	鑊	羅	鬳乱	鬳乱	鬳乱	鼎	鼎
E	虬	虫	異	変	壺	翼	嵩	鄉	僕	禧
F	鬼	畏	从	伾	姬			鼓	禋	羊
G	宗	宗	向	安	家	爵	爵	羴	昷	血
H	癸	癸	癸	癸	癸	朩	尞	帝	帝	矢

KEY TO TABLE OF CEREMONIAL GRAPHS

(NOTE: Most of these readings are according to Lo Chen-yü. The romanized word, and meanings at the end, are script developments in modern use as given above. For relative tables of early bone and bronze script, see Joseph Needham: *Science and Civilization in China,* Vol. 2 (Cambridge, 1956) Table 11, Ideographic Etymologies, pp. 218–231.)

A (1) A spirit, water, and a kneeling man. CHU: to invoke, pray.
(2) A vessel, and a man washing his face; probably a ceremonial ablution. MEI: a place-name.
(3) A man in a vessel containing water. YÜ: to wash or bathe.
(4) A stylus or brush being dipped into a vessel of water; possibly an act of consecration of the stylus. CHIN: to exhaust (the contents of a vessel by fire).
(5) Washing the hand in a vessel. KUAN: to wash the hands.
(6) A ceremonial symbolic object. FENG: abundant, luxuriant.
(7) A ceremonial wine vessel, with water beside it. CHIU: wine.
(8) A hand grasping a metal rod being heated in fire, probably for singeing the Oracle Bones. PO: a poker.
(9) A symbolic tree over a fire. HSI: ancient worship of lucky stars. (Williams' Dictionary.)
(10) A symbolic tree with a covering hood or pall.

B (1) Vessel, tree, and a hand. SHU: a tree.
(2) Two hands holding a mat, or more probably a rolled mat. HSIEH: to thank, thanks.
(3) Vessel, rice, and two hands. YI: a general class of ceremonial vessels.
(4) Ram in a ceremonial vessel. KAI: to cover, to build, to seal.
(5) Ram over fire. Possibly name of a Shang ancestor. KAO: a lamb, a kid.
(6) A burning fire, with two hands receiving it ceremonially.
(7) A fire burning under the kitchen range. TSAO: kitchen range.
(8) A burning flame above the capital palace.
(9) A burning flame, over fire, above the capital.
(10) Two fires and a flame above the capital, probably signifying the awe and majesty of the palace. HSIA: to fear.

C (1) Two ceremonial vessels, two hands, and an oracle symbol. CHAO: to call, or summon or invoke.
(2) Wine vessel held in two hands, with a good omen or spirit. FU: happiness.
(3) A symbol in which a spirit and water are prominent. LU: a favour or gift, prosperity.
(4) Two ceremonial vessels and two hands. AN: a cover of a vessel or tripod.
(5) Ceremonial vessel with shield character above it. YÜ: a basin, a large cup.
(6) Two hands supporting a bamboo book, over a good omen or spirit.
(7) Oneself, over a ceremonial vessel, with Yi, the cyclical character designating the second day of the week, by the side. Would this refer to a purification ceremony performed on the Yi day?
(8) Hand holding a beater or baton, over a ceremonial object. CH'IAO: a club or baton; to knock or strike or beat.
(9) An arrow, representing a flame, on a pedestal or symbolic tree; possibly a lamp.
(10) Bottle-shaped vessel with cover. HU: a pot, a jug, a vase.

D (1) Two hands holding a vessel, from which steam ascends, above which is the symbol for growing millet. CHENG: to steam, to cook vegetables by steaming (as in the winter sacrifice).

(2) Two hands ceremonially offering jade, under a roof of probably an ancestral temple. WU: a medium; sorcery; the service of spiritual beings.
(3) A ceremonial object or vessel, held in two hands. YI: ceremonial cups or vessels; a rule or law.
(4) A bird being boiled in a cauldron. HU or HUO: to boil, a boiler. Connected with ancient punishment of boiling alive (Matthew's Dictionary).
(5) A hand net catching a bird. LO: a net.
(6) (7) and (8) Ceremonial steamers. Usually in two parts. YEN: ceremonial steamers.
(9) and (10) Ceremonial vessels, usually for food offerings. TING: ceremonial vessels.

E (1) Dragon-shaped object with Hsin crest, held in two hands. CH'IU: a young dragon; to wriggle or curl.
(2) Dragon-shaped object with Kan crest, held in two hands. CH'IU: a young dragon; to wriggle or curl.
(3) An upright framework supported by two hands. YI: strange; a wonder or miracle.
(4) A hand holding a burning torch, probably in the ancestral temple. SEU: to venerate the ancestors.
(5) A bottle-shaped wine container. HU: a jug or vase.
(6) Kneeling transgressor, with both hands in the stocks, by a stream of water. TSUI-JEN: a transgressor.
(7) Kneeling transgressor in prison, with hands shackled. TSO-LAO: to be a captive.
(8) Two kneeling men, with a ceremonial vessel between them. CH'ING: auspicious; good luck; a high official.
(9) A barbarian servant, wearing tall plumed head-dress, and with a tail, offering in both hands a vessel with steaming contents. P'U: a servant.
(10) A ceremonial vessel, probably associated with divine blessing and joy. HSI: happiness.

F (1) Symbol for a ghost. KUEI: a disembodied spirit; demon.
(2) A ghost carrying club or staff. WEI: to fear, to dread; awe.
(3) Two kneeling worshippers. TSUNG and TS'UNG: cousins; to follow, to obey.
(4) Kneeling man, by a symbolic tree. SHU: to be erect, like a tree.
(5) Kneeling woman, by a symbolic tree. SHU: (unknown).
(6) A kneeling fire-bearer.
(7) A bell (?) with hand holding beater.
(8) A symbolic tree, with hand holding beater. KU: a drum.
(9) Ceremonial vessel. YIN: a sacrifice offered with purity and reverence (Giles' Dictionary, 13, 234).
(10) A character composed of a ram and an ox. YANG-NIU.

G (1) and (2) Roof with an omen or spirit under it. TSUNG: ancestral temple; clan.
(3) A mouth inside a house. HSIANG: towards; in favour of.
(4) A woman inside a house. AN: peace.
(5) A pig inside a house. Probably the pig of sacrifice in the ancestral temple. CHIA: family, clan.
(6) and (7) Ceremonial wine cups. CHÜEH: wine libation cups.
(8) Ceremonial vessel. CHIA: ceremonial wine container.
(9) The sun in a ceremonial vessel. WEN: compassionate; to feed a prisoner.
(10) Blood in a sacrificial vessel. HSÜEH: blood.

H (1) (2) (3) (4) and (5) Different forms of the tenth and last cyclical day stem. KUEI: the last of the Ten Heavenly Stems.
(6) Pictograph of a tree—branches above, roots below. MU: tree, wood.
(7) A tree or wood on a flaming fire. LIAO: wood fuel for the sacrifices.
(8) and (9) Faggots of wood bound together for the sacrifice to the "Above" or Supreme Being, representing God, or the sacrifices to God. TI: God, Supreme Ruler.
(10) The graph for "large," with a square or enclosure above. T'IEN: Heaven—a place. In the succeeding Chou dynasty it was often personified, and used to designate the deity.

APPENDIX D

PROBABLE DATE OF THE ELEPHANT TOMB, GROUP I

VERY FEW Western or Far Eastern scholars have made an intensive study of the culture ot ancient China as revealed by the script of the Oracle Bones of Honan, and of the ancient Chinese bronzes. One who has attained eminent distinction as an authority on this subjec is a Canadian missionary to China, Dr. James Mellon Menzies, who for many years lived in Honan, in the city of Anyang, where the Oracle Bones and many very important ancient bronzes have come to light.

When the Royal Ontario Museum of Archaeology required expert assistance in classifying its early bronzes, Dr. Menzies was invited to undertake this work. For several years he applied himself to this task, concentrating particularly on the development and sequence of the Chinese halberd, or Ko. One result from this research has been a monumental work—"Shang Ko: A Study of the Characteristic Weapon of the Bronze Age in China; 1311–1039 B.C."—a volume of 550 pages still in manuscript, together with nearly 200 plates of line-drawings, of which several are given in the text above under Group I.

Among these halberds (Ko) are nine, now in the Chinese collection of the Museum, which originally came, as far as can be known, from the Elephant Tomb (Group I). This Appendix provides an excerpt from Dr. Menzies' manuscript dealing with one of these halberds (Ko-70), which conveys valuable information bearing upon the dating of that particular tomb. The sequence numbers of these nine halberds, and the catalogue numbers, together with their respective line-drawing numbers are found in Appendix E.

EXCERPT FROM A STUDY OF SHANG DYNASTY HALBERDS

By Rev. Dr. James M. Menzies

(This excerpt deals particularly with Ko-70, NB.3975)

Ko-70 Inscribed bronze Ko — Plates XX, XXI

R.O.M.A. NB.3975, obtained in Honan in 1933, along with 61, 64, 95, 133, 138, 160; bronze knife with food prong and elaborate open-work dragon handle (NB.3961. *I.L.N.*, Apr. 20, 1935, p. 640, Fig. 9) and a flat-bladed adze (NB.3978. *I.L.N.*, Apr. 20, 1935, p. 641, Figs. 13 and 14). Said to have come from the tomb with the covered gravy-boat type of vessel, Kuang, decorated with an elephant design (*I.L.N.*, May 18, 1935; Extra Plate IV, Fig. 2, Colour; also p. 888, Fig. 4, and p. 889, Fig. 12). This tomb is said to be south of Ta-ssu-k'ung village, across and north of the Huan River, just east of the Waste of Yin and Hsiao-t'un village, Anyang Hsien. For a photograph of the reverse, see *I.L.N.*, Apr. 20, 1935, p. 641, Fig. 20. Restored length 205 mm. (8 1/8 ins.).

This Ko-70 is complete, except for a crumbling of the point; the metal is crystalline; dark green patina; traces of cloth; the mark of the haft is clearly outlined on the blade.

The thick centre of the blade acts as a stop ridge in front of the thinner trunnions. The blade tapers from the centre to a thin edge. No definite midrib. The hole near the back of the haft is 9 mm. (3/8 in.) in diameter and has been cast and reamed out with a drill.

The pictograph on the reverse is that of a naturalistic tiger Hu. The inscription on the obverse is of a man drawn full face with a large round head and a heart-like design on his body. On the shoulder of the man is a hafted Ko with a blade similar in shape to this very Ko-70. The shaft protrudes above the blade and is bent back slightly. On the end of the haft is a round knob. The size of the Ko is exaggerated in proportion to the figure of the man.

This graph of a man with a Ko on his shoulder is also found on a bronze cup for heating wine (*San-tai* 15.32.7, or *Hsü-yin* 2.18.11) where it is associated with the graph "chariot." The important parallel, however, is a flat-bladed adze or plane in the Royal Ontario Museum, NB.3978 (see *I.L.N.* Apr. 20, 1935, p. 641, Figs. 13 and 14). The Ko and the adze were obtained at the same time, and since the material, patination, and inscriptions are alike, they undoubtedly belong to the same set. In the upper of two panels on the blade of the adze is the figure of a man with a rounded head carrying a Ko upright with point facing outwards. The lower panel has a stylized striped tiger. It is evident that the graph of the man with the Ko held upright in his hand is a variant writing of the man with the Ko held on his shoulder. When this identity is realized it is then possible to equate the bronze graph with a well-known personage on the bone inscriptions: Tzu-Chih.

1. *Ts'ang-kuei* 209.4
2. *Ts'ang-kuei* 254.2; *Hou-pien* 1.22.6: Father Yi
3. *Ts'ang-kuei* 254.2; *Hou-pien* 1.22.6: Elder Brother Ting
4. *Chih-yü* 4.1; *Yi-ts'un* 14; *Hsü-pien* 5.12.5
5. *Chih-yü* 4.1; *Yi-ts'un* 14; *Hsü-pien* 5.12.5

Father Yi is King Hsiao-Yi, father of Wu-Ting, so that Tzu-Chih belongs to the reign of King Wu-Ting, 1255–1197 B.C. (1324–1266 B.C.), since these inscriptions are of this date.

In the *Shuo Wen* Dictionary (A.D. 100), Vol. 10, under the "great man," Ta radical, there is a graph of a "great man" and a Ko to which is added a phonetic with the sound "tieh." The definition quotes Ode 198, verse 4, line 3, using this character, while modern editions such as Legge, Vol. IV, page 132, use a different character pronounced Chih, but in whose make-up there is neither "great man" nor Ko. The bronze and bone graph which still existed in the *Shuo Wen* Dictionary of A.D. 100 had become obsolete and another more modern character of the same sound substituted in the modern Text of the Odes. The old meaning of "great" is however retained in the commentary. Mr. Tung Tso-pin, in his *Criteria*, page 379, lists Tzu-Chih as No. 3 among the individuals he calls "the twenty sons of King Wu-Ting." This personal name, Chih, depicting a "great man with a Ko held upright in the hand" also occurs on bronze vessels:

1. Hsien (steamer): *San-tai* 5.3.3; *Hsü-yin* 1.30.3; *K'o-chai* 17.2: Father Hsin
2. Chüeh (cup): *San-tai* 16.16.9: Father Keng
3. Chüeh: *San-tai* 16.16.10: Father Keng
4. Chüeh: *Hsü-yin* 2.3.2
5. Ting (cooking pot): *San-tai* 2.1.5
6. Ting: *San-tai* 2.1.6

Since Chih had vessels made for his Father Hsin and Father Keng, he must have belonged to the generation after the brothers King P'an-Keng and King Hsiao-Hsin. In other words, he was of the same generation as King Wu-Ting who would properly mention a living person on a bone inscription by his title, Tzu-Chih, and King Hsiao-Yi as Father Yi. Accordingly we see that "son" in this case cannot mean "son of Wu-Ting," but is merely the title of a son of the royal family, just as in the later Warring States period such titles were used as "king's son," Wang-Tzu; "duke's son," Kung-Tzu; "duke's grandson," Kung-Sun.

These sons, Tzu, listed on the bones, number not twenty, as given by Mr. Tung, but at least forty-eight in accordance with my own list. On several hundred bone inscriptions referring to them they play the rôles of grown men in charge of important functions in the state, rather than the rôles of children in a harem.

Tzu, "son," may be considered as an ancient homophone for the later Ssu, "officer in charge of"; the graph of the man carrying a Ko, on Ko-70, which is always preceded by Tzu on the bones, may mean "the officer in charge of the king's Ko." (The Ko took the place of a ceremonial mace in court ceremonies.) In the *Kuo Yü* (Stories of the States), *Chin Yü* (Chin State), Chapter 9, we read: "Duke Mu put his carved Ko on his shoulder and went out to see the ambassador"—*Mu Kung heng tiao ko ch'u chien shih che.* This vivid picture of a ninth century B.C. ceremony is suggested in the graph on Ko-70. Other Ko having names paralleled by Tzu on the bone inscriptions are Ko-71,75,77,79,81,86,95, and 111. Such court offices seem to have been retained within the royal family, for "son" on the bones undoubtedly often means "child," or as we would say, "prince" of the royal house.

If the graph on the obverse of Ko-70 be the name of an office, then the name on the reverse, which follows in ordinary inscriptions, is in all probability according to Chinese usage the more personal name "Tiger." Such a personal name is known on bone inscriptions where he is given another title, that of "Marquis" (Hou). See *Ching-hua* 7; *Ch'ien-pien* 4.44.6, 4.45.1, 4.45.2, 7.36.1; *Yi-ts'un* 375.

"Tiger" is not an uncommon name in any age, and it is only because Ko-70 and these two sets of bone inscriptions all refer to important personages in the same period that we suggest the possibility of their referring to the same individual. *Ch'ien-pien* 4.44.6 records an inquiry about "following Tiger, Marquis of Yung, in an expedition" against an enemy region.

With the name of his marquisate recorded, we are able to give the four names of this person:

1. He was a "son" (Tzu) or prince of the royal house in Wu-Ting's reign.
2. He was named "Tiger" (Hu), probably indicating his character—a name given to a grown man, and not to a child.
3. He was court officer in charge of the ceremonial Ko (Chih).
4. He was Marquis of Yung (Yung Hou).

Yung is the modern equivalent for this graph given by the first investigator of bone script, Mr. Sun Yi-jang. Meng is the pronunciation adopted by Mr. Tung Tso-pin from Mr. Ting Shan. I am not convinced, but have no other alternative to offer. The graph shows a bed enclosed by a tub-like cover at each end. Graphs with a bed seem to be related to the Royal Couch.

This Marquis of Yung, in Wu-Ting's reign, was the commander-in-chief of an expedition against the Chou people. See *Ch'ien-pien* 7.31.4, which also records the command to the owner of Ko-137 to follow him. No doubt one reason for the few bone inscriptions recording his court office is that he was popularly known during his lifetime as "Marquis of Yung," or as "Marquis Tiger." He was, however, given his royal court title "The great one with a Ko named Tiger" when buried, and his vessels inscribed accordingly.

Mr. Tung Tso-pin ventures a startling conjecture in his *Criteria,* p. 389, where he says that the personal name, Ming, of King Tsu-Chia is Tsai, a graph very similar to Chih, on the bones. This statement is based on *T'ai P'ing Yü Lan,* Chapter 83, which quotes the "Ancient Bamboo Annals." He then suggests that the graph on the bone inscriptions, which we have shown to be the same as that on Ko-70, is the personal name of King Tsu-Chia and that Tsai is a wrongly transmitted literary form. King Tsu-Chia was the third son in the succession to King Wu-Ting, and Mr. Tung Tso-pin considers "son great one with a Ko," Chih, to be a son of King Wu-Ting. But this can hardly be so, since the bronze ritual vessels were made by Chih for Fathers Hsin and Keng, and there are no brothers of King-Wu-Ting named Hsin and Keng. King P'an-Keng and King Hsiao-Hsin are a generation earlier, "fathers" of the generation of King Wu-Ting. The person whose name is inscribed on Ko-70 is a contemporary and not a son of King Wu-Ting and lived during his reign, 1255–1197 B.C. (1324–1266 B.C.)

J. M. M.

APPENDIX D

Bibliography

Ch'ien-pien: Lo Chen-yü, *Yin Hsü Shu Ch'i Ching Pien.*
Chih-yü: Lo Chen-yü, *T'ieh Yün Ts'ang Kuei.*
Ching-hua: Lo Chen-yü, *Yin Hsü Shu Ch'i Ching Hua.*
Hsü-yin: Wang Ch'en, *Hsü Yin Wen Ts'un.*
San-tai: Lo Chen-yü, *San Tai Chi Chin Wen Ts'un.*
Ts'ang-kuei: Liu O, *T'ieh Yün Ts'ang Kuei.*
Yi-ts'un: Shang Ch'eng-tso, *Yin Ch'i Yi Ts'un.*
I.L.N.—Illustrated London News.

In the light of the above we have no hesitation in dating the Elephant Tomb to the reign of King Wu-Ting, that is 1324 B.C. to 1266 B.C. according to the orthodox chronology; or 1255 B.C. to 1197 B.C. according to a recently proposed revised chronology.

At the same time there is good ground for dating the two following sets of vessels, Groups II and III, to that period, and in association with the Marquis of Yung, the "Bearer of the Ko"; that is Group II, "The Bearer of the Ko"; and Group III, "The Bearer of the Heavenly Disk."

W. C. W.

APPENDIX E

LINE-DRAWINGS OF HALBERDS

SOME OF THE HALBERDS (Ko) are depicted on the plates, but line-drawings of a few of the others may be of some value in illustrating technical details of this characteristic Shang weapon. In the lists of Group I, nine halberds are listed and, of these, line-drawings of seven are given in the illustrations below, Figures 1–7. Of Groups II and III fourteen items are listed, and line-drawings of four are illustrated in Figures 8–11.

These drawings were made under the supervision of Rev. Dr. J. M. Menzies, together with about two hundred others which are in the collections of the Royal Ontario Museum. In the captions to the figures the Ko number is the sequence number of Dr. Menzies' list, and page numbers refer to the descriptions given in the above text. NB is the catalogue number in the Chinese Collection of the Museum. Items in Group I are found on pages 29 to 33; in Groups II and III on pages 80 to 81.

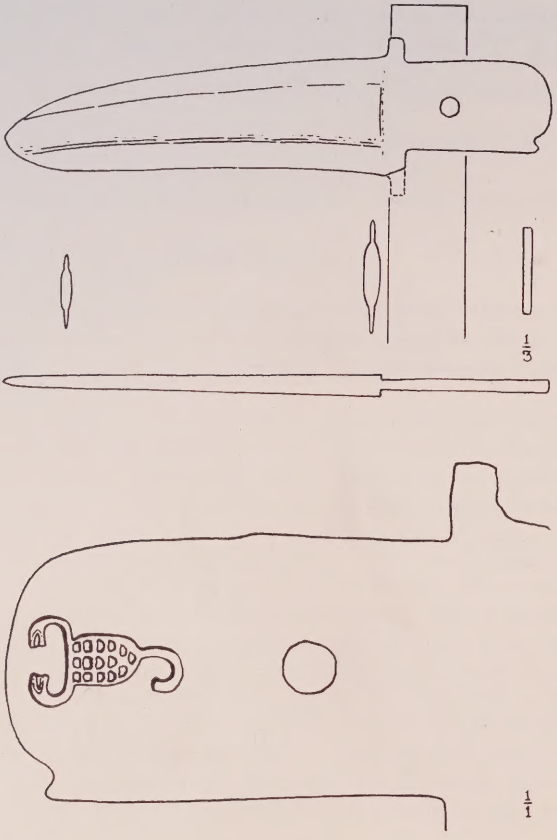


FIGURE 1. Ko–95 (NB.3974; p. 31)

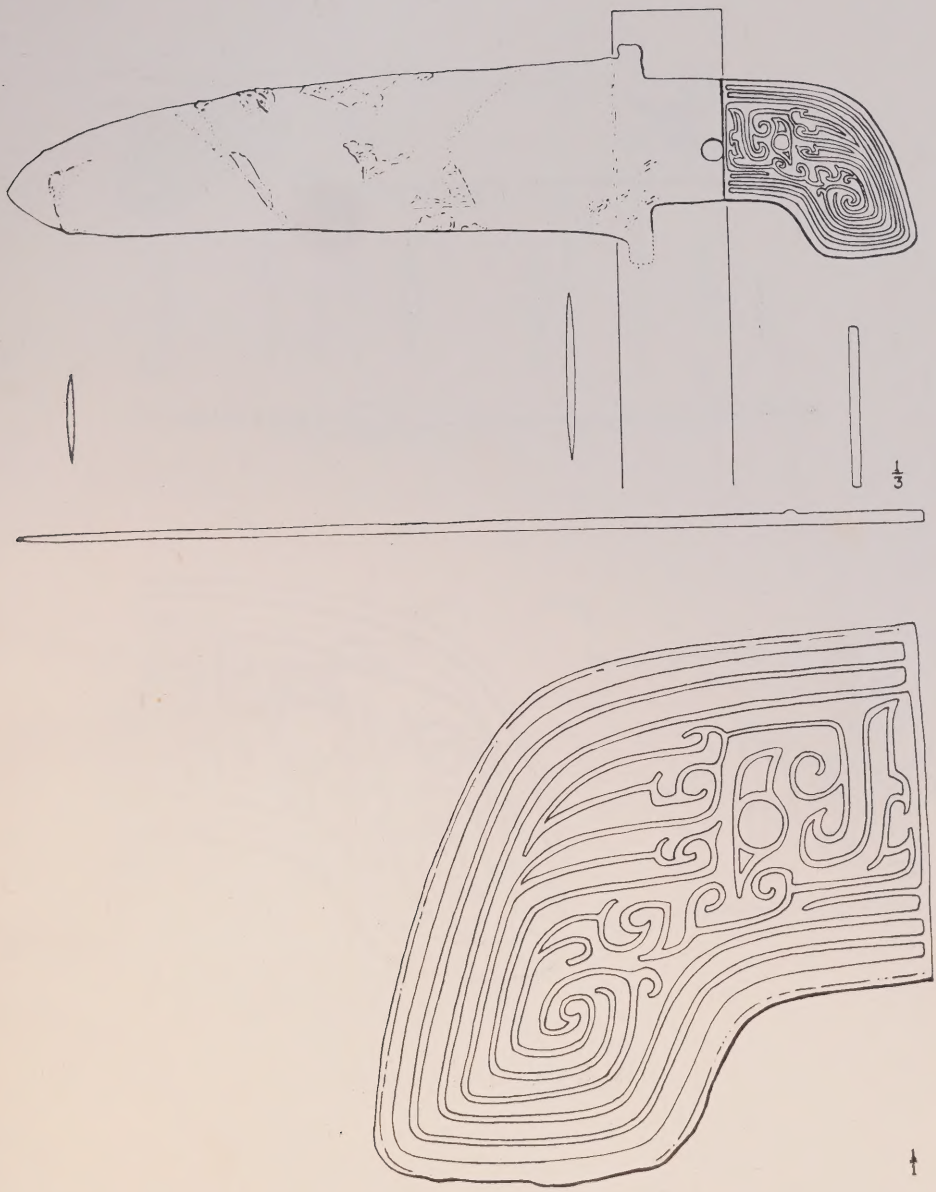


FIGURE 2. KO-61 (NB.3979; p. 30)

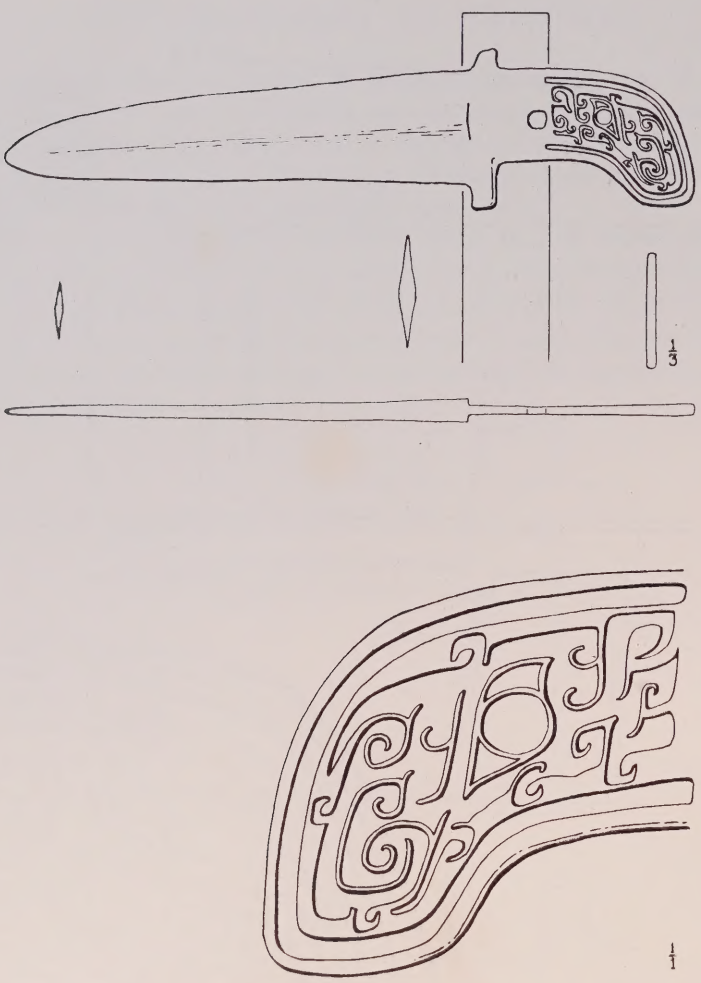


FIGURE 3. K0-64 (NB.3980; p. 30)

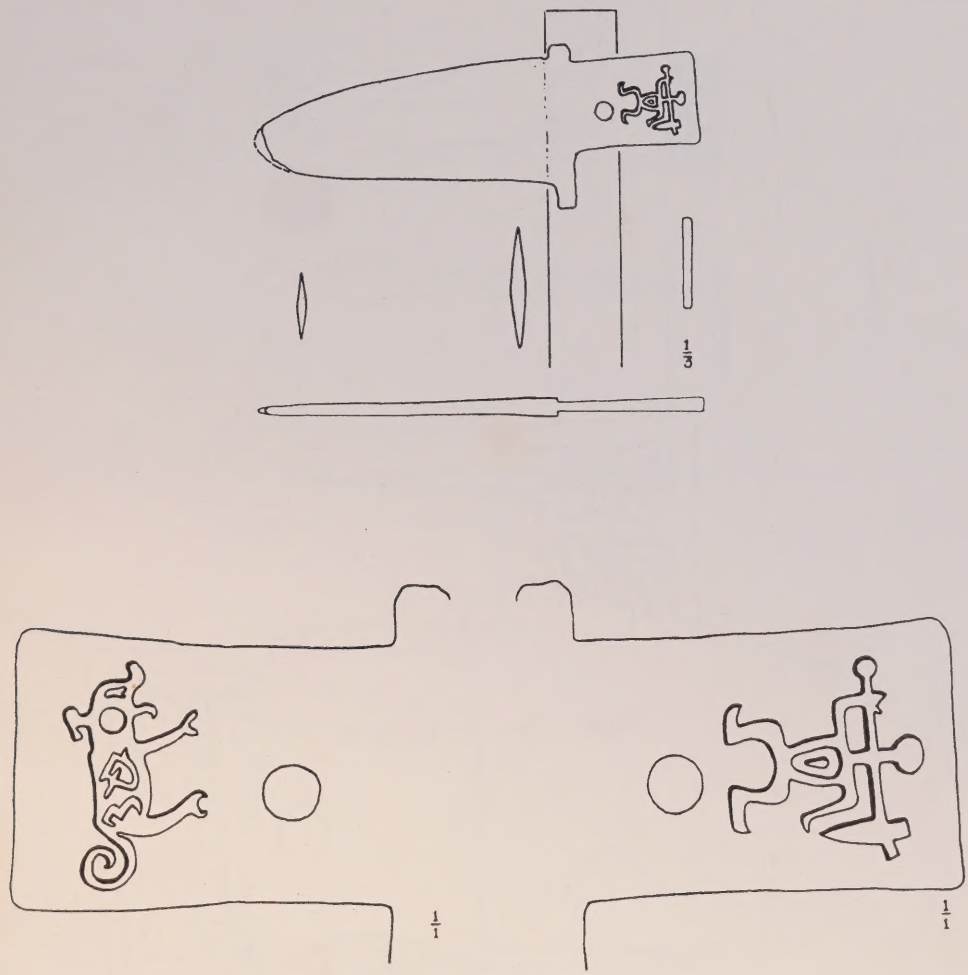


FIGURE 4. Ko–70 (NB.3975; p. 30)

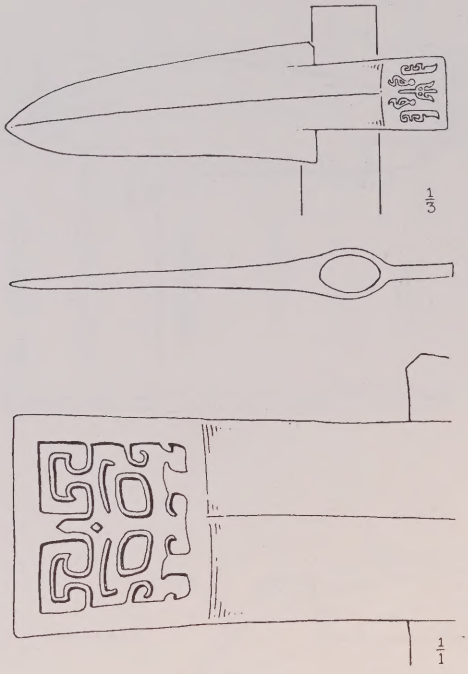


FIGURE 5. Ko–133 (NB.3977; p. 31)

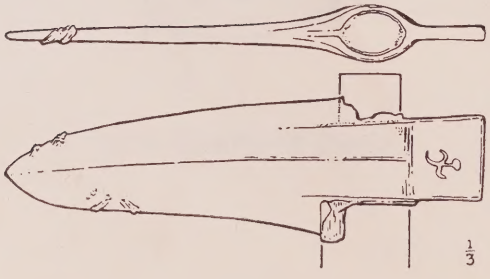


FIGURE 6. Ko–138 (NB.3976; p. 31)

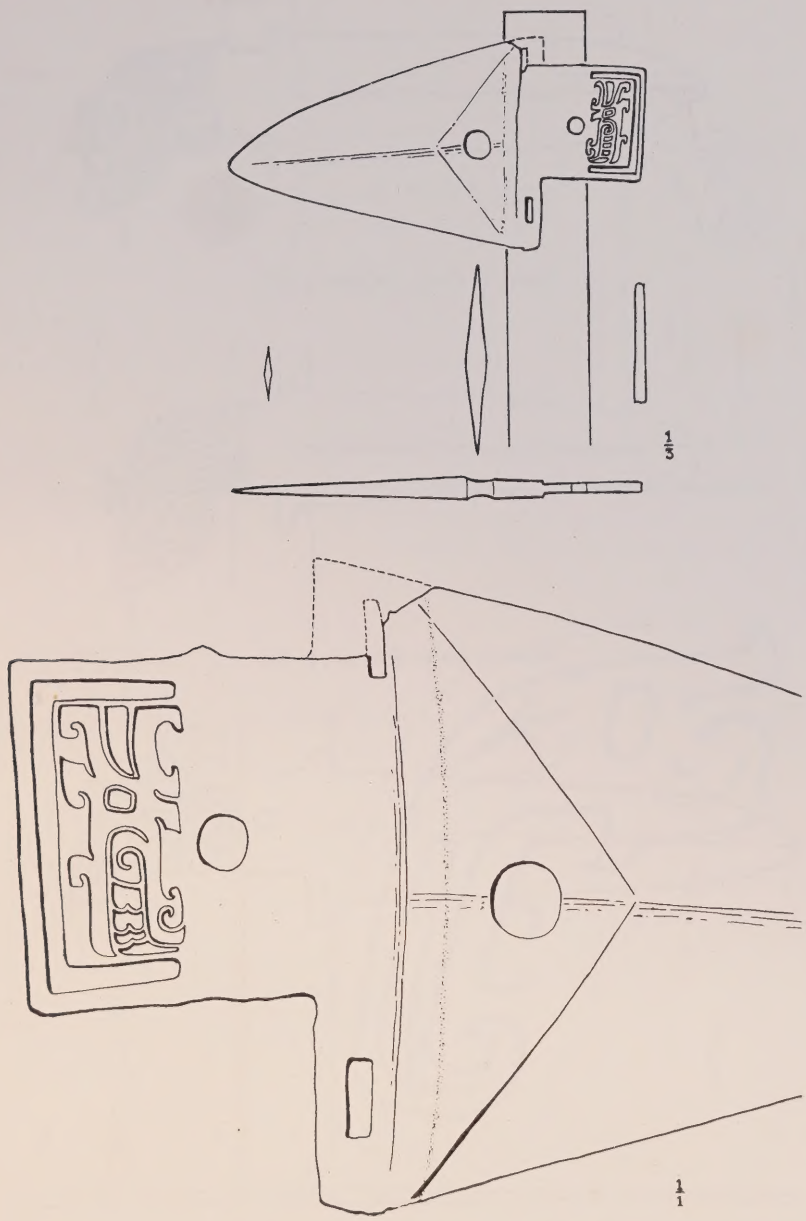


FIGURE 7. Ko-160 (NB.3981; p. 31)

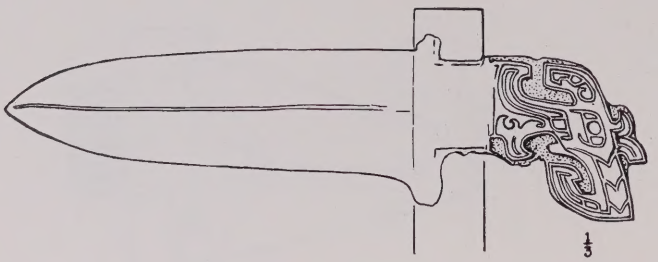


FIGURE 8. Ko-42 (NB.2968; p. 81)

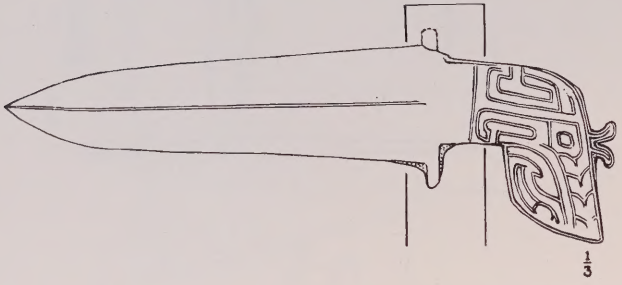


FIGURE 9. Ko-43 (NB.2960; p. 80)

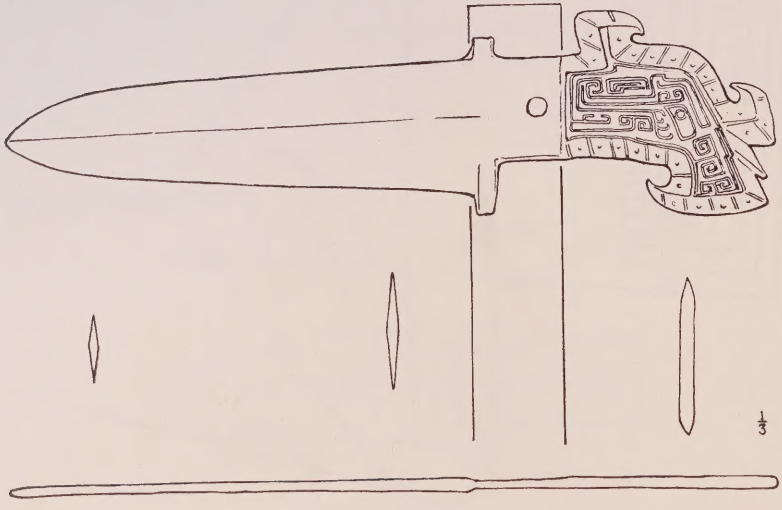


FIGURE 10. Ko-53 (NB.2967; p. 81)

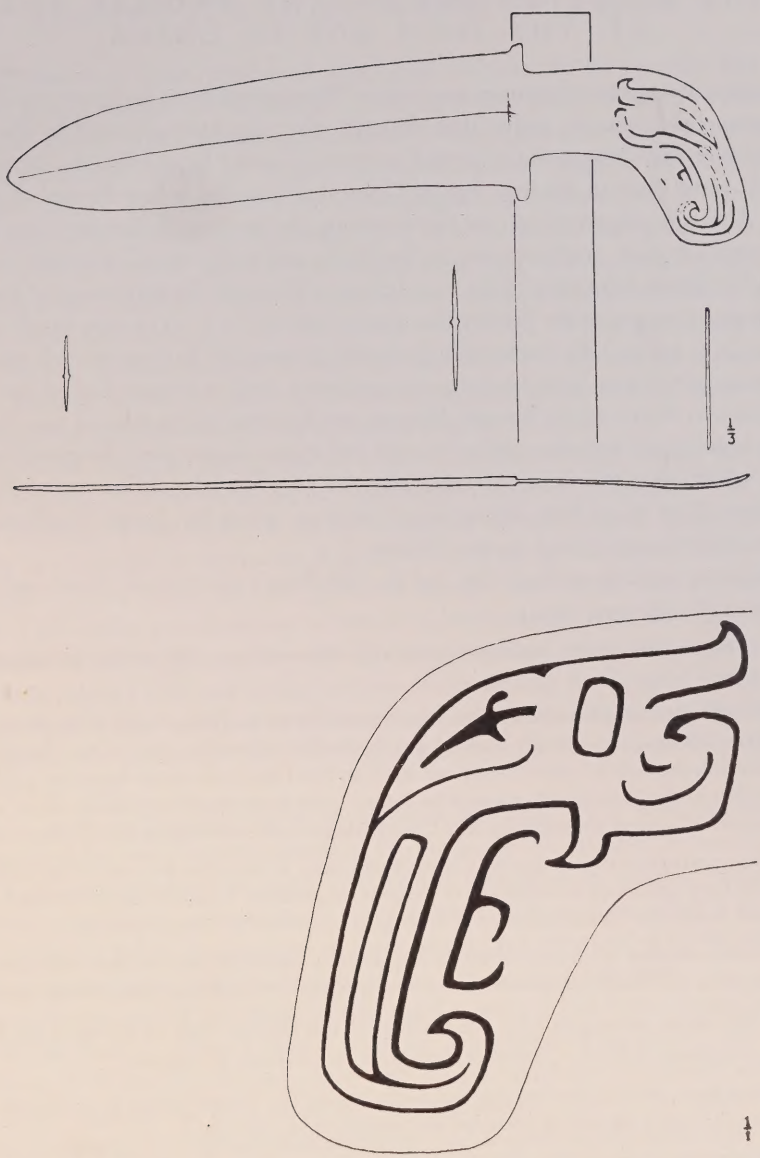


FIGURE 11. Ko-69 (NB.3221; p. 81)

APPENDIX F

THE RELATIONSHIP OF THE BRONZE AGE TO THE IRON AGE IN CHINA

THERE IS great divergence of opinion as to when China turned from bronze to iron, but from the Museum collections we gather that although iron may have appeared in Shang times, and certainly in the Chou period in limited quantity, it cannot be said that the Bronze Age of China had given place to the Iron Age of China at any period before the end of the Chou dynasty. Although objects of iron are found among the artifacts of Eastern Chou (770–481 B.C.) they are very few, and iron seems to have been used as if it were a semi-precious metal. In the Early Chinese collections of the Royal Ontario Museum, the percentage of iron objects among the metal vessels of the Former Han period (206 B.C.–A.D. 25) is very small, and in the Later Han (A.D. 25–221) the bronze still dominates in quantity. In those periods some of the objects are made of iron, with bronze parts combined, such as bronze hilts to iron swords. Most of the iron objects in the Toronto Museum are figurines of animals and men, lamps and domestic vessels, and weapons such as swords and spears. Some were decorated with gold appliqué, which appeared coarse and crude after the very fine inlays of bronze of the Eastern Chou. Most, if not all, of these objects are of cast iron, which Dr. Joseph Needham, F.R.S., declares was first manufactured by the Chinese.

The following excerpts are from Vol. I of Dr. Needham's recent book, *Science and Civilization in China* (Cambridge, 1954).

[p. 4] . . . Chinese achievements which are indubitably theirs such as . . . the earliest manufacture of cast iron.

[p. 93] Though some authorities believe that iron became known in China as early as the 8th century B.C. (Jansé thinks *ca.* 685 B.C.), the generally accepted date for the first reference to it is 513 B.C. though even this is considered a little too early by others. In any case there can be no doubt that its use began and quickly spread about the middle of the Chou period or somewhat before, and it seems therefore probable that it was one of the most important factors in disintegrating early Chou feudalism, and favouring the rise of independent States.

[p. 99] The appearance of iron among the Chinese feudal states, at about 600 B.C., was of late Hallstatt time, and indeed the latest appearance of iron in any of the great culture-areas. In spite of this fact we shall see below (Sect. 36) how rapidly the Chinese surpassed all other parts of the world in iron technology.

[p. 241] Certain successes of Chinese culture, such as the early mastery of cast iron, may well have been due to the nature of the ores employed, permitting fusion at temperatures lower than those possible elsewhere.

One of the latest dates given for the ending of the Bronze Age in China is by E. T. C. Werner,[1] sometime H.B.M. Consul at Foochow, who states as follows:

In Han times (from 206 B.C.) the Iron Age had hardly begun. The Bronze Age, as far as weapons are concerned, came to an end in the time of Chin and Wei dynasties (A.D. 265–550).

Mr. Werner was a sinologue of high repute, and was the author of *Descriptive Sociology—Chinese* (Part IX of Herbert Spencer's series) "the first work to present the phenomena of Chinese civilization in a complete and scientific form."

[1]E. T. C. Werner: *Chinese Weapons* (Royal Asiatic Society, Shanghai, 1932) p. 4.

APPENDIX G

ARCHAEOLOGICAL WORK IN CHINA

THIS SUBJECT cannot be dealt with at all adequately, because the information that comes from China is very meagre and nebulous. Yet enough news comes through to reveal that a great deal of activity is taking place in the matter of excavation and research, and there are rumours of a fabulous amount of recently excavated material which it may take years to examine and classify. In China there are archaeological publications, but Westerners not living in China have difficulty in obtaining copies, or even to hear the names of such publications. A Chinese bulletin issued in Formosa in 1950,[1] and only recently brought to the notice of this writer, contains at least two articles bearing upon themes relevant to the subject of this book. One is an article in Chinese by Dr. Li Chi, "Typological Studies of the Bronze Kou-ping (Chinese Halberd)," which is a parallel to the type-sequence study of the Shang Ko (halberd) which Dr. James M. Menzies prepared for his doctoral thesis in 1942, on the basis of the halberd collection in the Royal Ontario Museum.

The other is an extensive article, also in Chinese, by Shih Chang-ju on "Yin (Shang) weapons in Sets excavated from Hsiao-t'un" (Anyang). This article is illustrated with sketches and plates showing various objects *in situ* as revealed by the excavations. These illustrations corroborate in a remarkable degree the objects listed as from the Elephant Tomb, so much so as to make it seem likely that the objects of Group I have come from the excavation illustrated. There were great numbers of knives in both groupings of the same types and designs. Halberds, both of jade and bronze, and many plaques of great variety were common to both, while the fact that each group had five of the striking bow-shaped bronze jingles (Fu) is significant. There were jade and white stone and mother-of-pearl objects, including jade disks and arrow-points; and a few of the graphs on bronzes are common to both groups, so far as we can learn.

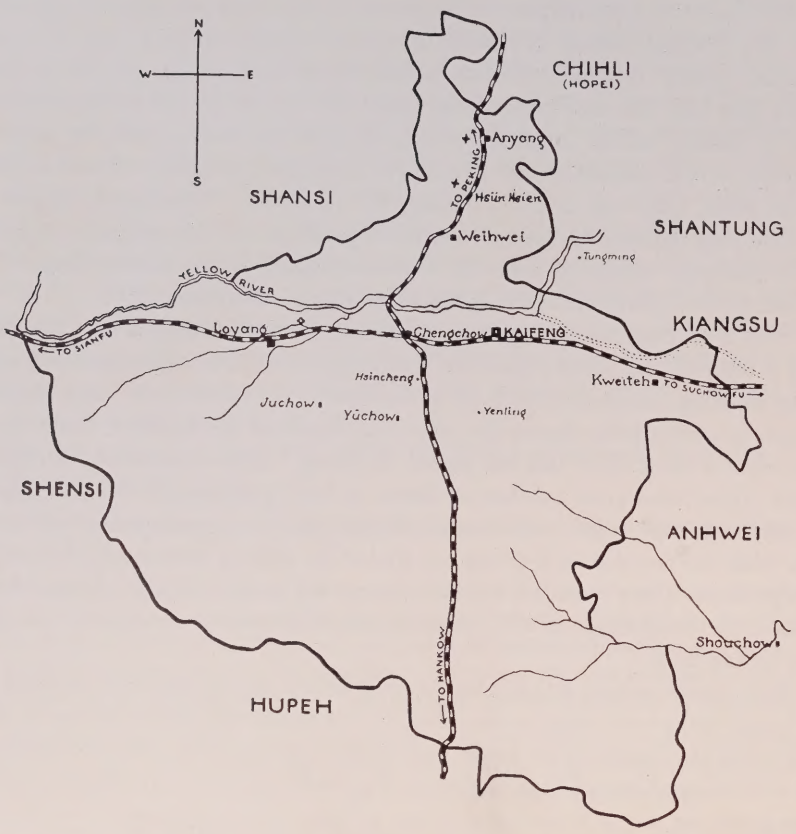
Mr. Shih's article assumes that the bow-shaped bronze jingles (Fu) were attached to the central handle of the bow, which is also called Fu, but careful examination of the illustrations does not reveal any contact of the jingles with broken parts of bows—they are isolated or in contact with knives. Some of these jingles are of a slender delicate type, which if attached to the bow could not fail to be damaged in the stringing and unstringing of the tough and powerful composite bow, which is the type of bow seen in the illustrations.

Moreover the arc part of the jingle, which is said to be attached to the central handle of the bow for the hand to grasp, is usually occupied with design in high relief, and the protruding horns of K'uei dragons and other such designs could not but hinder greatly the pressure of the extended left hand when the bow was drawn. Some of the jingles are large and heavy, measuring over three inches across the central zone which would supposedly be grasped by the left hand; and a dead weight of three pounds or so at that point on the bow could hardly make for accuracy of aim. We cannot but conclude that the explanation of these interesting objects is still to be looked for.

[1] *Bulletin of the Institute of History and Philology* (Academia Sinica, Taiwan, China), Vol. XXII, pp. 19–84, 1950.

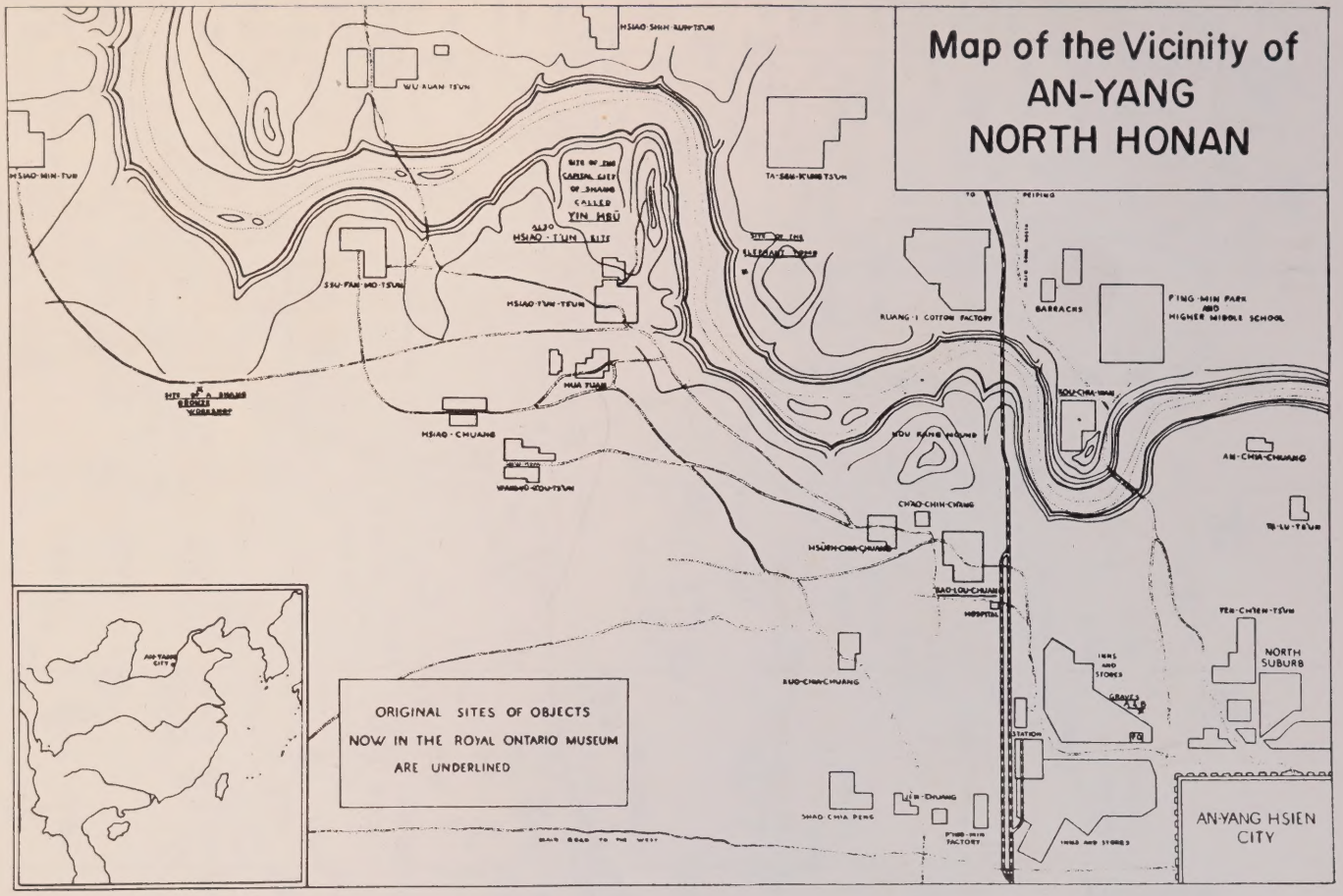
APPENDIX H

MAPS



Sketch Map of the
PROVINCE of HONAN

MAP A


Map of the Vicinity of
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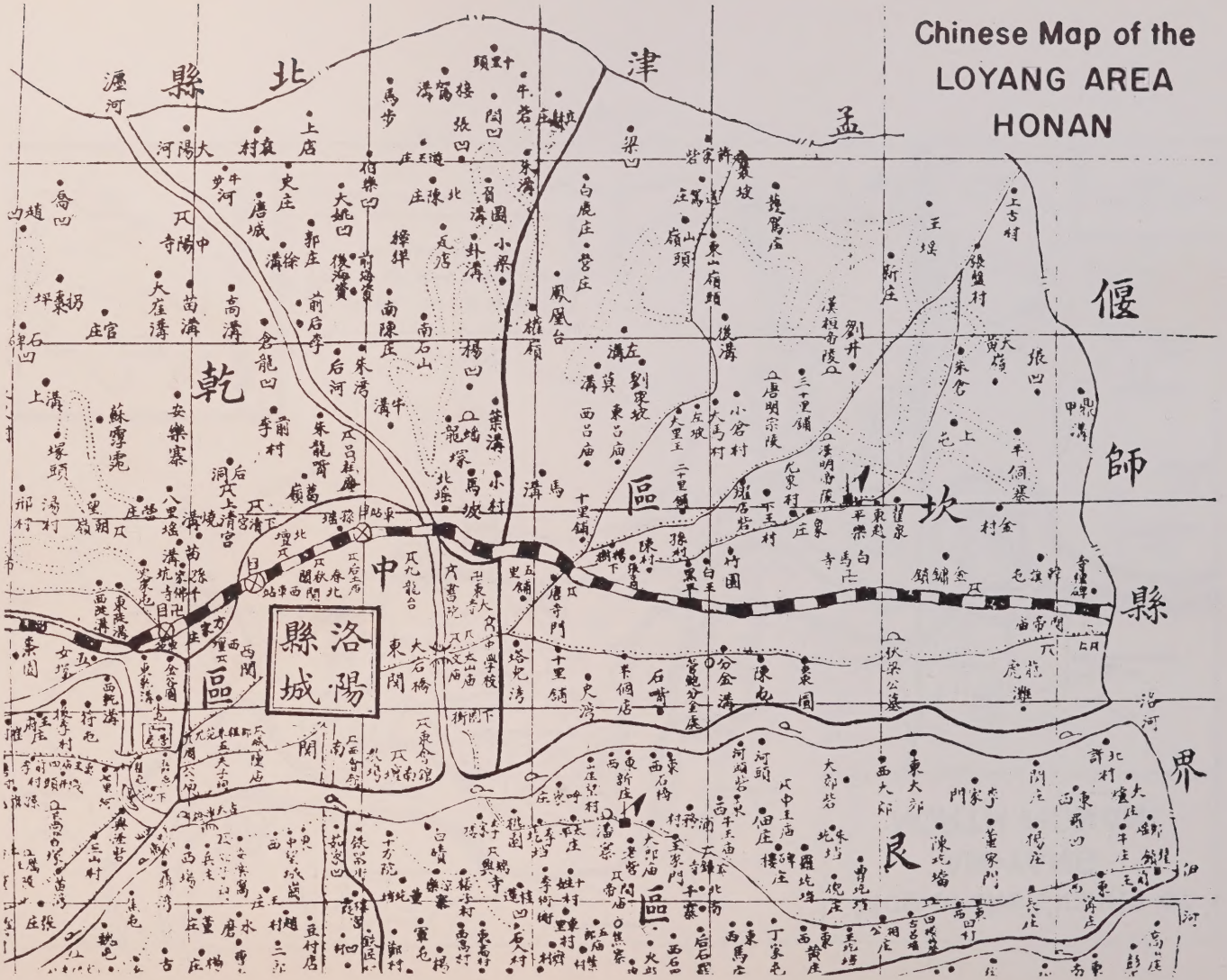
NORTH HONAN
HSIAO-SHIH-KUAN-TSUN
WU KUAN TSUN
HSIAO-MIN-TUN
SITE OF ONE CAPITAL CITY OF SHANG CALLED YIN HSÜ
ALSO HSIAO-TUN SITE
SSU-FAN-MO-TSUN
HSIAO-TUN-TSUN
TA-SSU-K'UNG-TSUN
TO PEIPING
RUANG-I COTTON FACTORY
BARRACKS
PING-MIN PARK AND HIGHER MIDDLE SCHOOL
SITE OF A SHANG (BRONZE FOUNDERY)
HUA TUNG
HSIAO-CHUANG
HSIAO-KOU-TSUN
KOU-CHIA-WAN
KOU KANG MOUND
AN-CHIA-CHUANG
CHAO-CHIH-CHUANG
HSUEH-CHIA-CHUANG
HOSPITAL
YEH-CH'EN-TSUN
NORTH SUBURB
HSIAO-CHIA-CHUANG
INNS AND STORES
GRAVES
STATION
PO
SHAO CHIA PENG
P'ING-MIN FACTORY
AN-YANG HSIEN CITY
MAIN ROAD TO THE WEST
ORIGINAL SITES OF OBJECTS NOW IN THE ROYAL ONTARIO MUSEUM ARE UNDERLINED

Map B


Chinese Map of the
LOYANG AREA
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西關
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塔灣
十里鋪
唐寺門
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洛河
伊河
北界

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